BAY AREA FUTURES

Where will we live and work?

A study commissioned by the **San Francisco District Council** of the **Urban Land Institute** and performed by the **Association of Bay Area Governments** with the cooperation of the **Bay Area Council**.

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ACKNOWLEDGEMENTS

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INTRODUCTION

Purpose

For decades, the San Francisco Bay Area has beckoned people from around the globe with its vitality, moderate climate, and natural beauty. Today, nearly seven million people, along with tens of thousands of national and international corporations, make their homes here. The region's allure continues to hold sway. A robust economy has spawned vigorous job growth, particularly in Silicon Valley, already a magnet for capital and information. Development—commercial and residential—is booming in many parts of the region.

With this exuberant growth, however, come challenges. Most of the region's new housing stock is being built in outer suburbs, far from the areas where jobs are concentrated. Transportation systems are burdened with ever-growing numbers of commuters. And already-high housing prices are skyrocketing. In large part, the future viability of the Bay Area hinges on how the region's remaining land is used.

Yet, decisions about land use are complicated by the fact that people hold widely differing ideas about what constitutes an appropriate use of land or pace of development. Although land use is clearly a regional issue, it is also the most basic local issue. With a region as large and diverse as the Bay Area, there are bound to be a variety of views about land use and economic development.

The San Francisco District Council of the Urban Land Institute (ULI), with additional support from the Bay Area Council, commissioned the Association of Bay Area Governments (ABAG) to produce this report in order to examine how the region's land use patterns are evolving. The report aims to present objective information that will serve as a basis for discussion, involving citizens, community, business, and political leaders. Key issues center around the character of the Bay Area, its continued economic vitality, and the challenges that accompany growth.

Contents of this Report

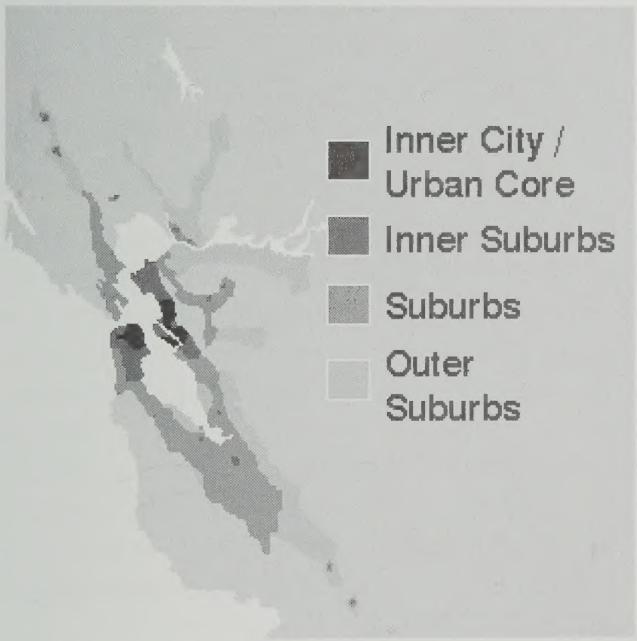
The first section of the report traces the historical development of the region. It also maps current land uses and identifies land designated for future development.

The next four sections—the heart of the report—examine recent development activity and provide forecasts of future growth in each of four subregions: South Bay, West Bay, East Bay, and North Bay. The maps in these sections illustrate relative levels of activity for cities and sub-city (census tract) areas. The maps are color-coded based on activity per square mile of land area and are intended as a tool for visualizing the geographic distribution of activity.

The concluding section examines issues that emerge from the detailed forecasts but are more regional in scope: the affordability of housing and the spatial relationships between housing, jobs, and transportation.

Historical Development Patterns

The development of regions, including the Bay Area, is often described in terms of four broad classifications: inner cities, inner suburbs, suburbs, and outer suburbs.



The Bay Area's inner cities constitute the historic core of the region and include the urban centers in and around Oakland and San Francisco. They were generally built out by 1900. The characteristic urban form of these areas is the street grid. Land use changes within the urban core areas are usually due to redevelopment—either of former industrial areas or of individual lots and buildings. Examples can be seen in Emeryville and in the South of Market District of San Francisco.

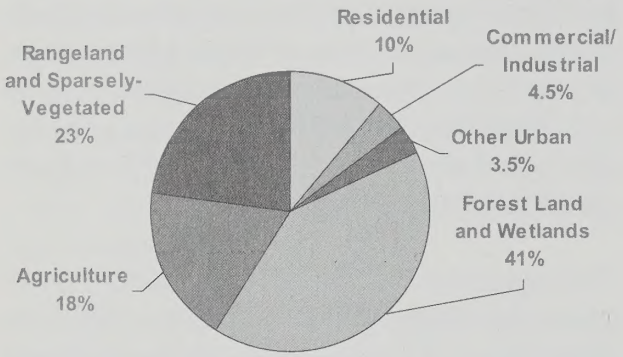
The areas classified as inner suburbs developed between the turn of the century and World War II. Included in these zones are the residential areas surrounding the inner cities, and communities that expanded with the railroad system. Examples include San Leandro and Richmond. The urban form of these areas generally continues the grid pattern of the inner cities. Relatively few land use changes are occurring in these areas today, although redevelopment is seen in some areas.

The large portions of the Bay Area that developed after World War II, but before 1980, are classified as suburbs. Although development patterns vary, these areas tend to have urbanized around a newly-expanding automobile transportation system. Rather than expanding concentrically around previous development, they spread like arms along highways. Suburbs are characterized by wide commercial arterials connecting pockets of single-family homes. Today's land use changes are typically larger-scale housing, commercial, and light-industrial infill projects.

Outer suburbs are areas that were subdivided in the last 15 to 20 years around some of the smaller, old railroad communities in the outlying areas of the greater Bay Area. Examples include Antioch and Vacaville. Typically they take the form of single-family, residential subdivisions accompanied by retail service developments and, occasionally, major office parks. These areas are isolated semi-urban centers threaded together by a system of major arterial streets and highways.

Land Use Patterns Today

The map on the opposite page shows current patterns of land use. Overall, the region covers 4.4 million acres or about 7,000 square miles (excluding major bodies of water).



Forest land and wetlands account for 41%. Approximately half of this–850,000 acres–is protected public land or designated open space. A total of 800,000 acres or 18% is developed urban land. This includes residential, commercial, and industrial uses, plus airports, golf courses, cemetaries, and urban parks.

Survey of Local Government Policies

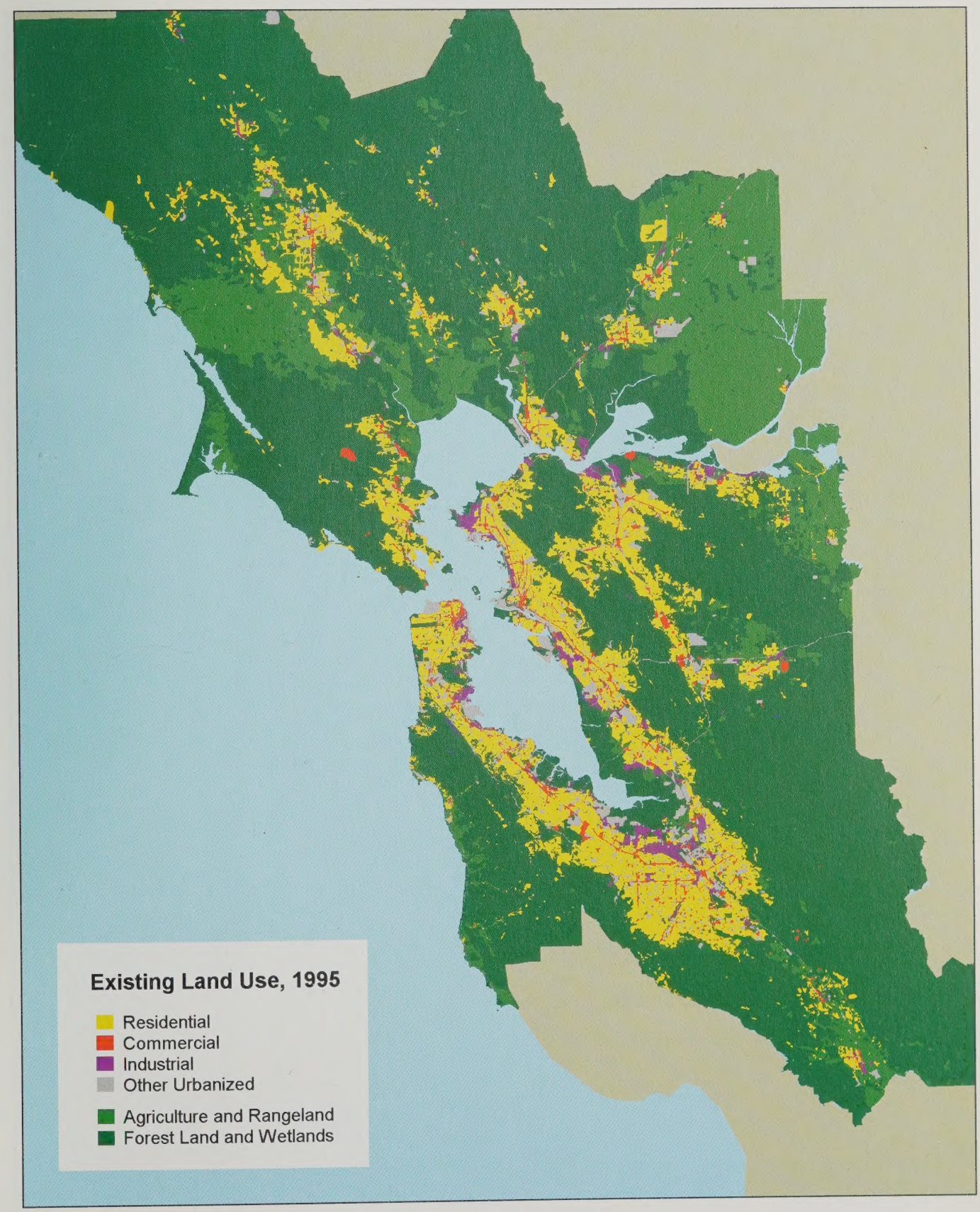
Since 1975, ABAG has collected information on current land use and development policies of local governments in the region. Estimates based on this information are that between 1995 and 2020, a total of 196,500 acres will be available for residential development and 57,700 acres will be available for commercial and industrial development. As listed below and plotted on page 6, the largest quantities of land are available in the East Bay and North Bay counties.

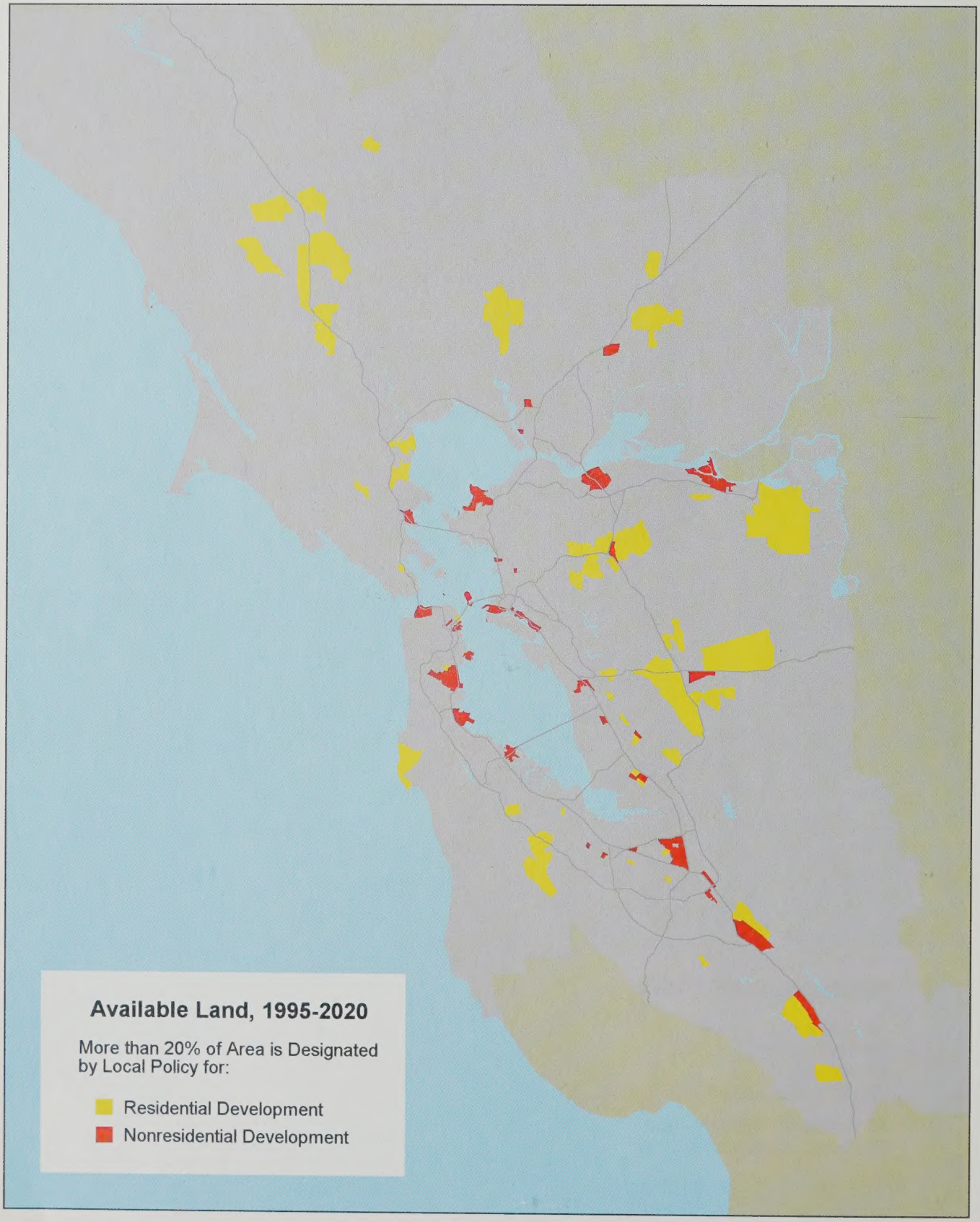
The local policy database primarily reflects local general plans, although zoning regulations, growth boundaries, growth initiatives, and other relevant policies have also been incorporated. This amalgamation of data allows a reasonably accurate description of the supply of land available to accommodate future household and employment growth. It accounts for both vacant and redevelopable land. However, it is important to note that the database tends to

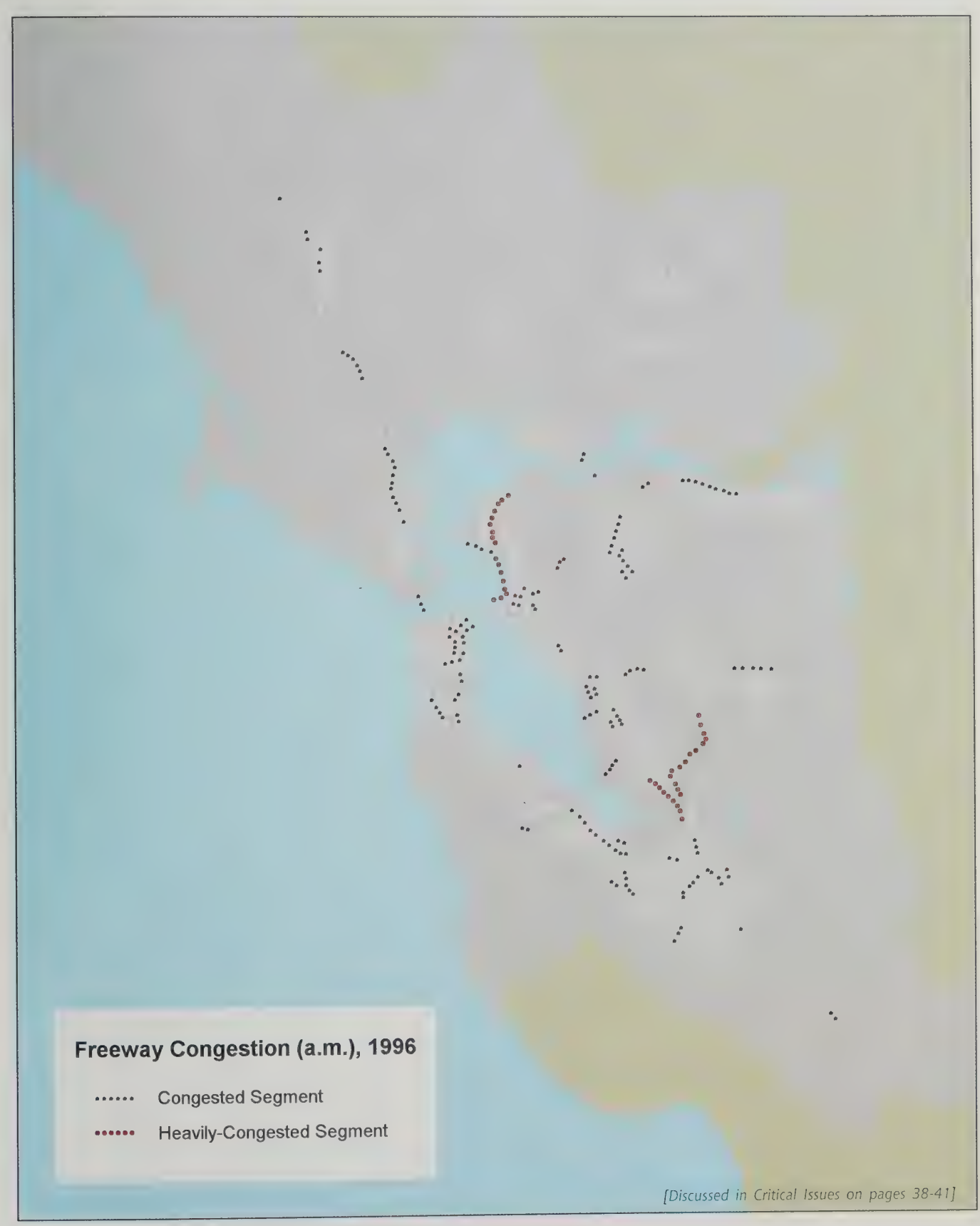
		Existing Developed Land, 1995		Potentially Available for Development, 1995-2020	
County	Total Area	Residential	Commercial / Industrial	Residential	Commercial / Industrial
Alameda	473,300	77,700	43,100	23,000	11,900
Contra Costa	462,000	88,400	32,600	38,800	8,900
Marin	332,700	29,800	9,000	9,000	2,200
Napa	481,200	12,100	4,900	9,200	3,700
San Francisco	29,800	16,000	8,200	900	1,600
San Mateo	285,300	40,300	16,500	17,400	6,700
Santa Clara	825,800	108,900	45,600	14,000	10,500
Solano	533,000	27,100	18,500	17,400	9,500
Sonoma	1,013,400	59,000	14,200	66,800	2,700
Region	4,436,500	459,300	192,600	196,500	57,700

All areas are gross acres, including roads, sidewalks, parking, etc.

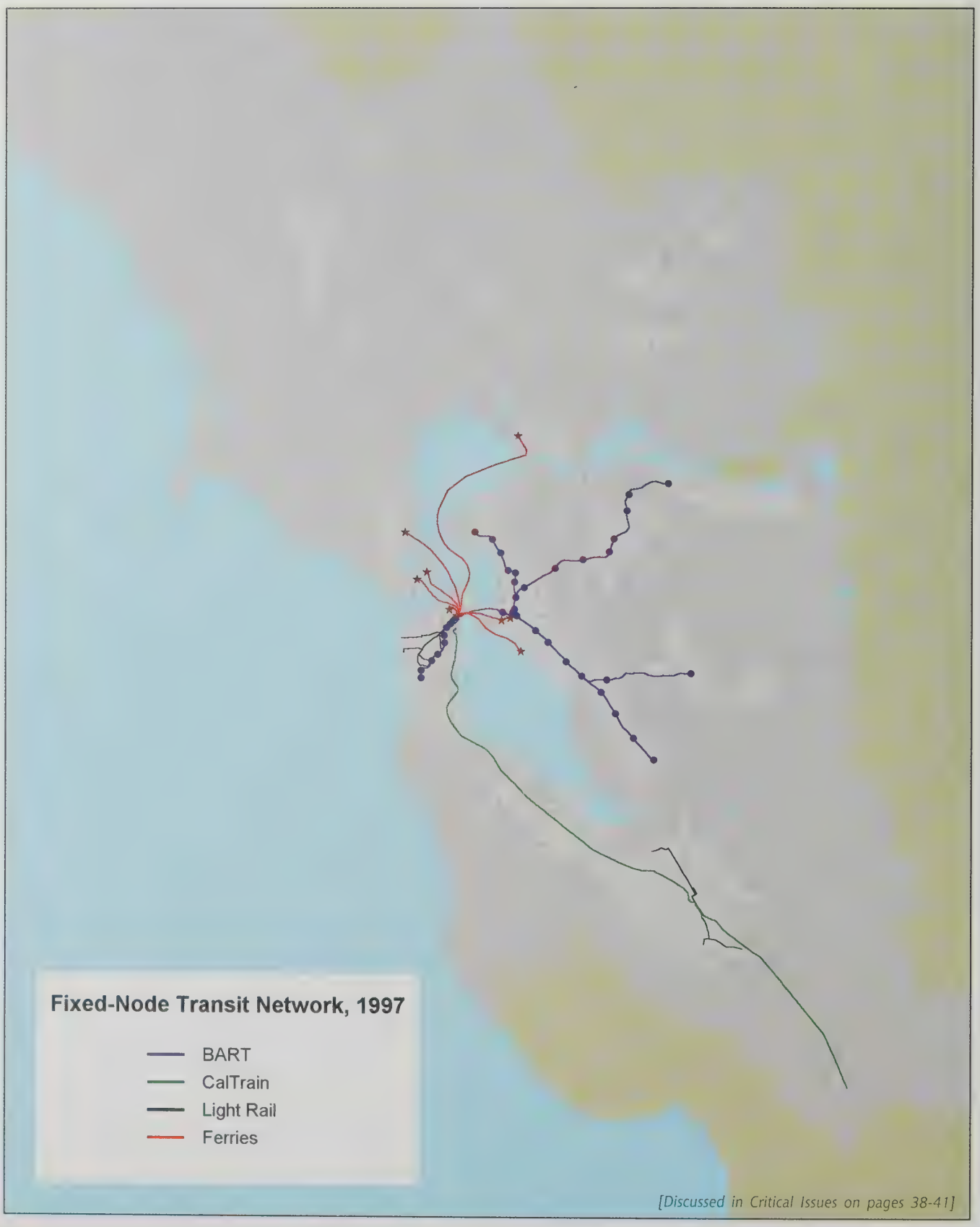
Land potentially available for development includes some areas zoned at densities as low as 1 housing unit / 9 acres. It is unlikely that such areas will see intense development.


Existing Land Use, 1995
Residential
Commercial
Industrial
Other Urbanized
Agriculture and Rangeland
Forest Land and Wetlands


Available Land, 1995-2020
More than 20% of Area is Designated by Local Policy for:
Residential Development
Nonresidential Development



[Discussed in Critical Issues on pages 38-41]



[Discussed in Critical Issues on pages 38-41]

underestimate the potential for intensification or reuse of developed land. In addition, local government policies frequently change over time as communities reassess the desirability of growth. And, of course, land use is subject to a variety of political factors that may not be represented by existing local policies.

It must also be noted that much of the land potentially available for development–particularly in Marin County and the North Bay–is zoned at very low densities. It is unlikely that significant numbers of housing units or businesses will be built in these areas. The reader is referred to later sections of this report for growth forecasts.

Understanding the Forecasts

The forecasts presented in the next four sections are based on ABAG's soon to be released *Projections 98*, an extensive analysis of regional economic, demographic, and regulatory conditions. One of the key assumptions in the forecasts is the recognition that local government plans, policies, and regulations dramatically affect future growth and land use. However, the forecasts are not the policy of any given city or county and should not be viewed as a "build-out scenario" based on local government general plans or only the local policy database discussed above. Instead, the forecasts represent likely development activity. They reflect the results of projected national, regional, and sub-regional economic and demographic conditions, shaped by estimated transportation costs and the availability of land.

SOUTH BAY

Dramatic Recent Growth

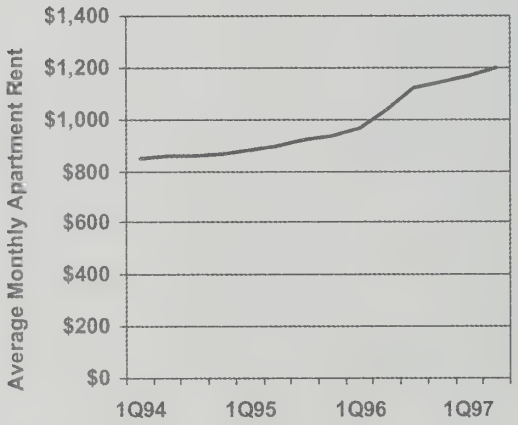
By any definition of growth, the South Bay is booming. Between January 1996 and June 1997, building permits were issued for 11,000 new housing units, 3.5 million square feet of office, 3 million square feet of retail/service, and 4 million square feet of industrial space. In all categories except retail/service, these numbers represent more than one third of the total activity for the region. Employment growth between 1995 and 1997 is estimated at 126,000 jobs, a15.2% increase. This represents 44% of the total employment growth for the region.

Residential activity is particularly intense in Sunnyvale and Cupertino, and further south in Morgan Hill and Gilroy. Together, these four cities issued permits for more than 3,000 new units between January 1996 and June 1997. Of course, in terms of the absolute number of units, the much larger City of San Jose overshadows these cities. The 5,710 units permitted during the same period in San Jose are by far the most of any city in the Bay Area. In fact, San Jose's permit total exceeds the combined total for all cities in Marin, San Francisco, and San Mateo Counties.

As far as non-residential development, the City of Santa Clara has been exceedingly active. Between January 1996 and June 1997, the city issued permits for a total of 1.1 million square feet of office space, 900,000 square feet of retail/service space, and 400,000 square feet of industrial space.

Rising Housing Costs

Despite the recent residential building activity, housing prices in the South Bay continue to rise, demonstrating that demand still far outstrips supply. Sales prices of homes in Santa Clara County rose approximately 10% between July 1996 and July 1997.

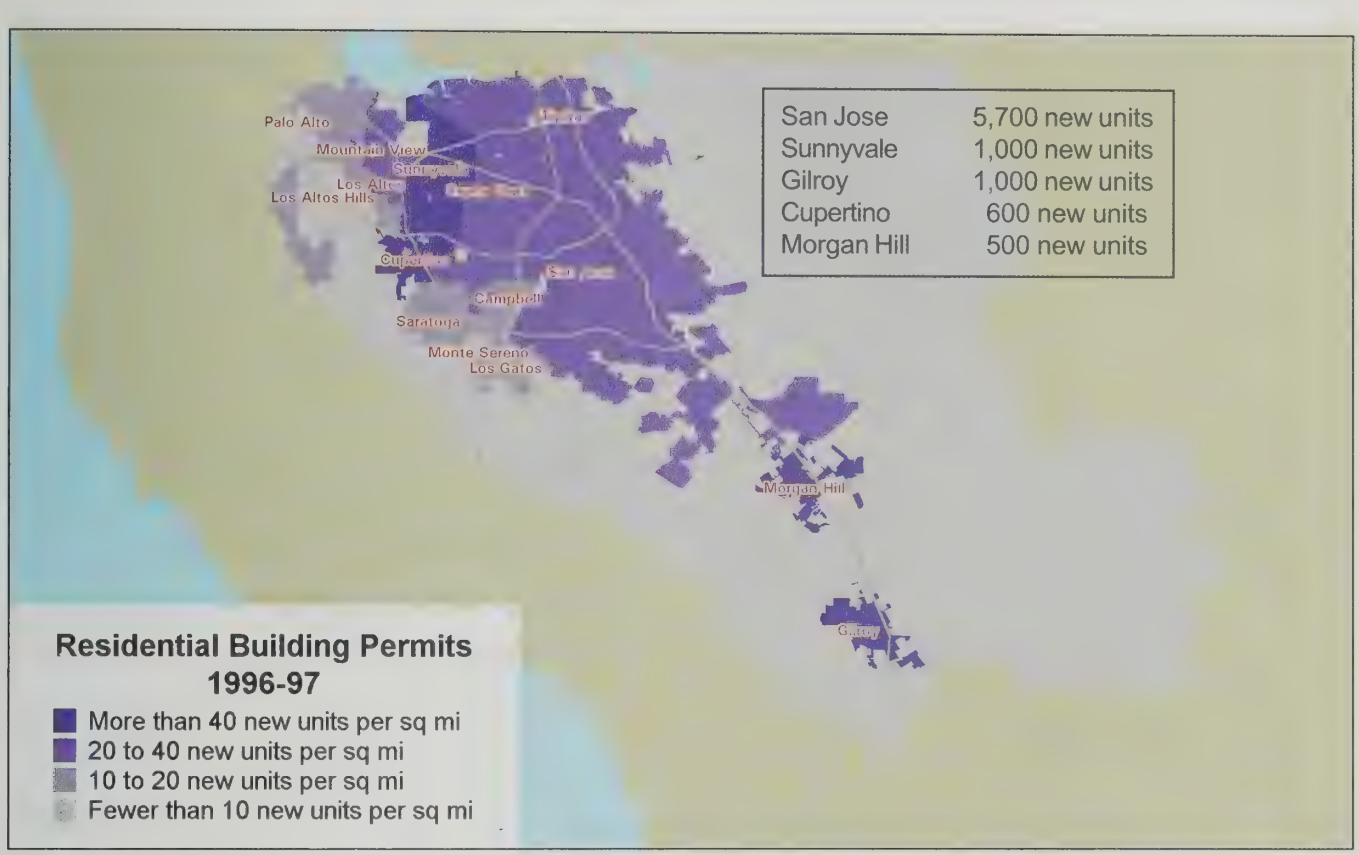


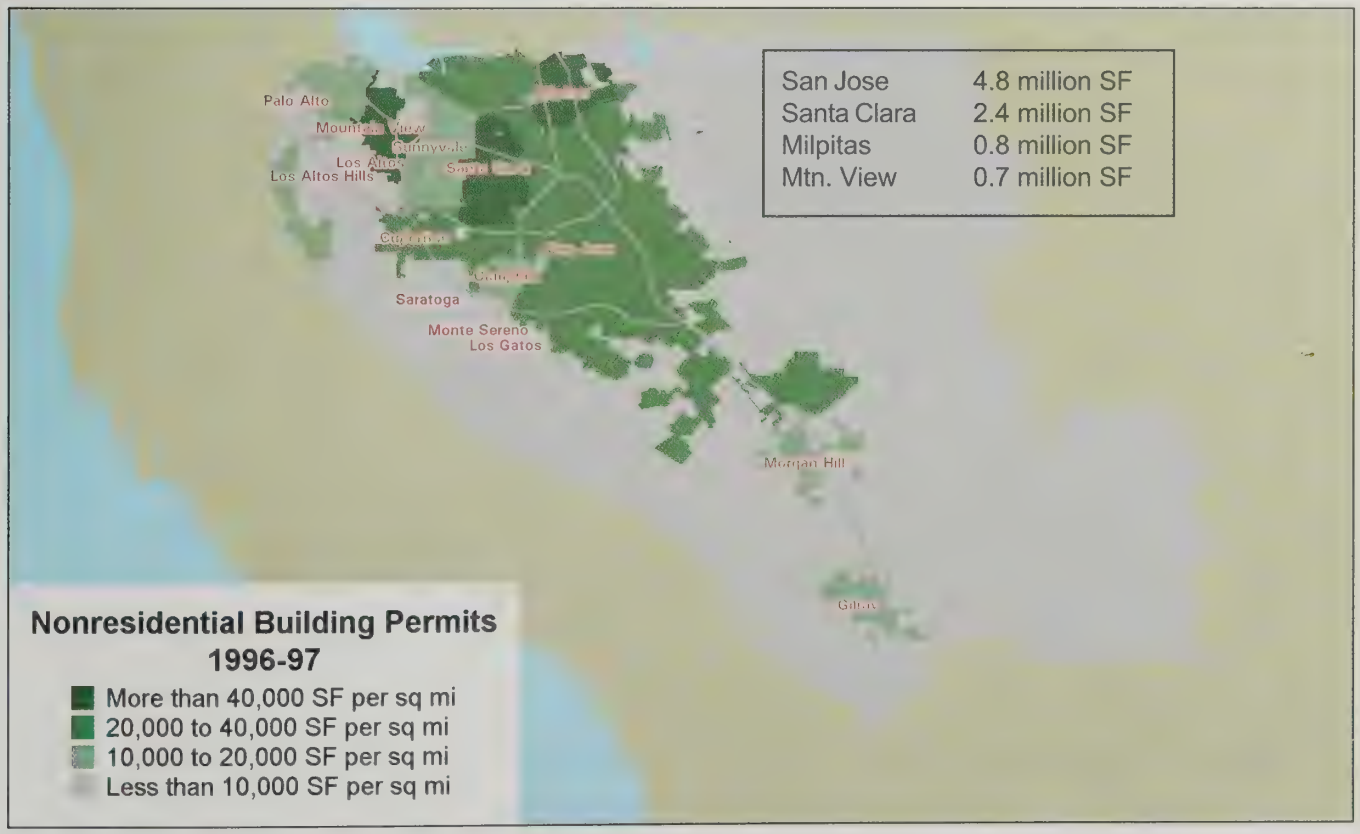
Average rents rose even more dramatically, jumping 20% in this one year.

Continued Job Growth

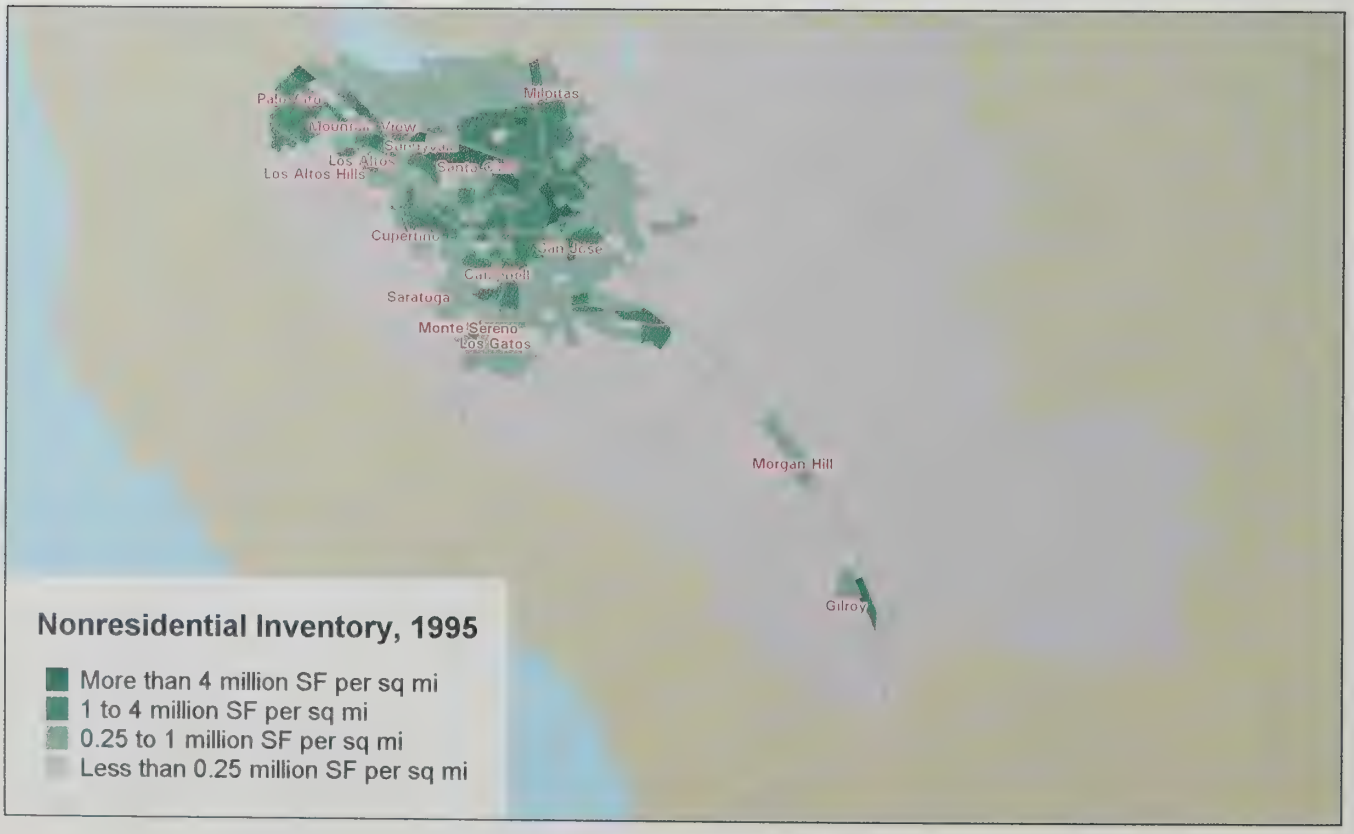
As the home of numerous Internet, networking, communications, and software companies, the South Bay is poised for continued job growth over the next 20 to 25 years. ABAG forecasts the addition of 400,000 jobs between 1995 and 2020, an increase of almost 50%. Growth is expected to be strong in most parts of the subregion.

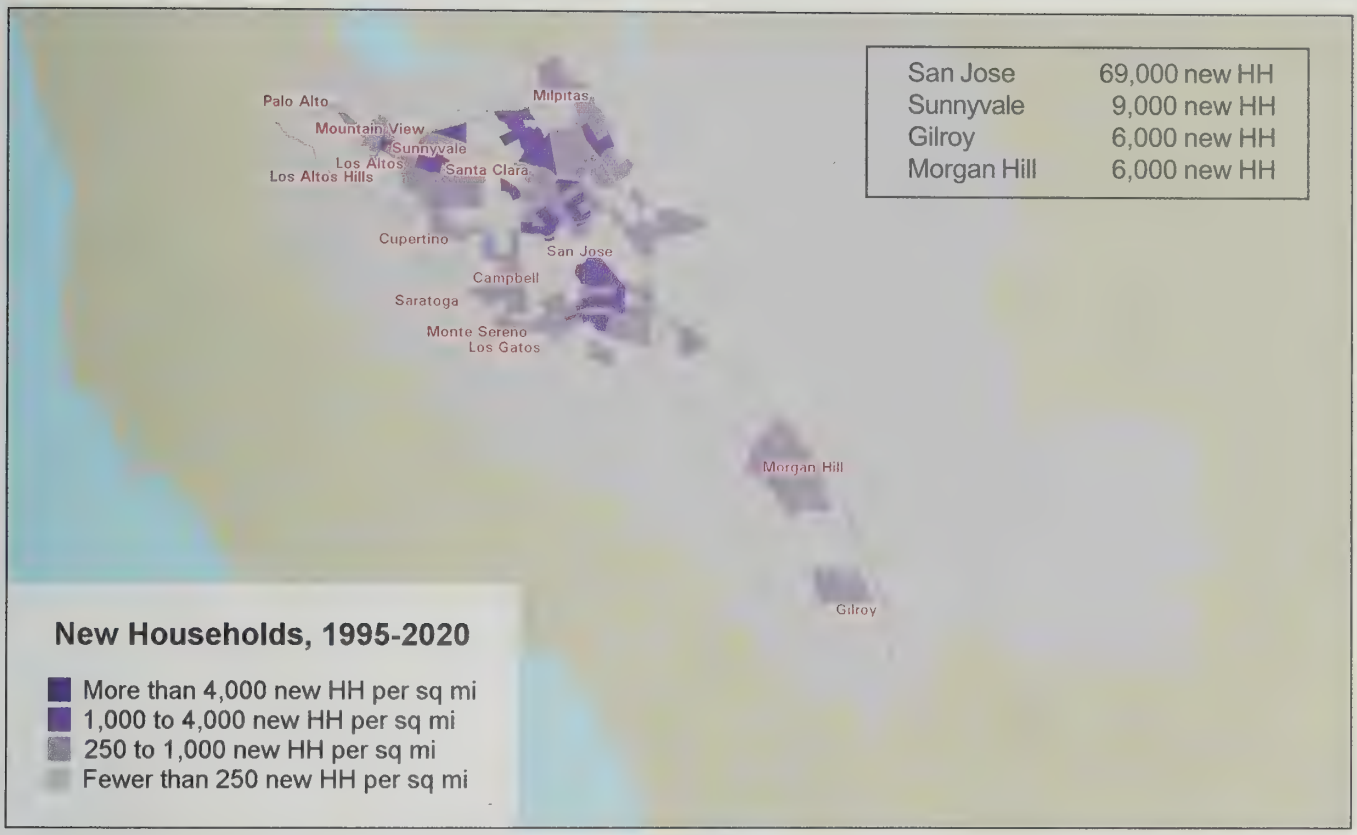
[continued on page 15]

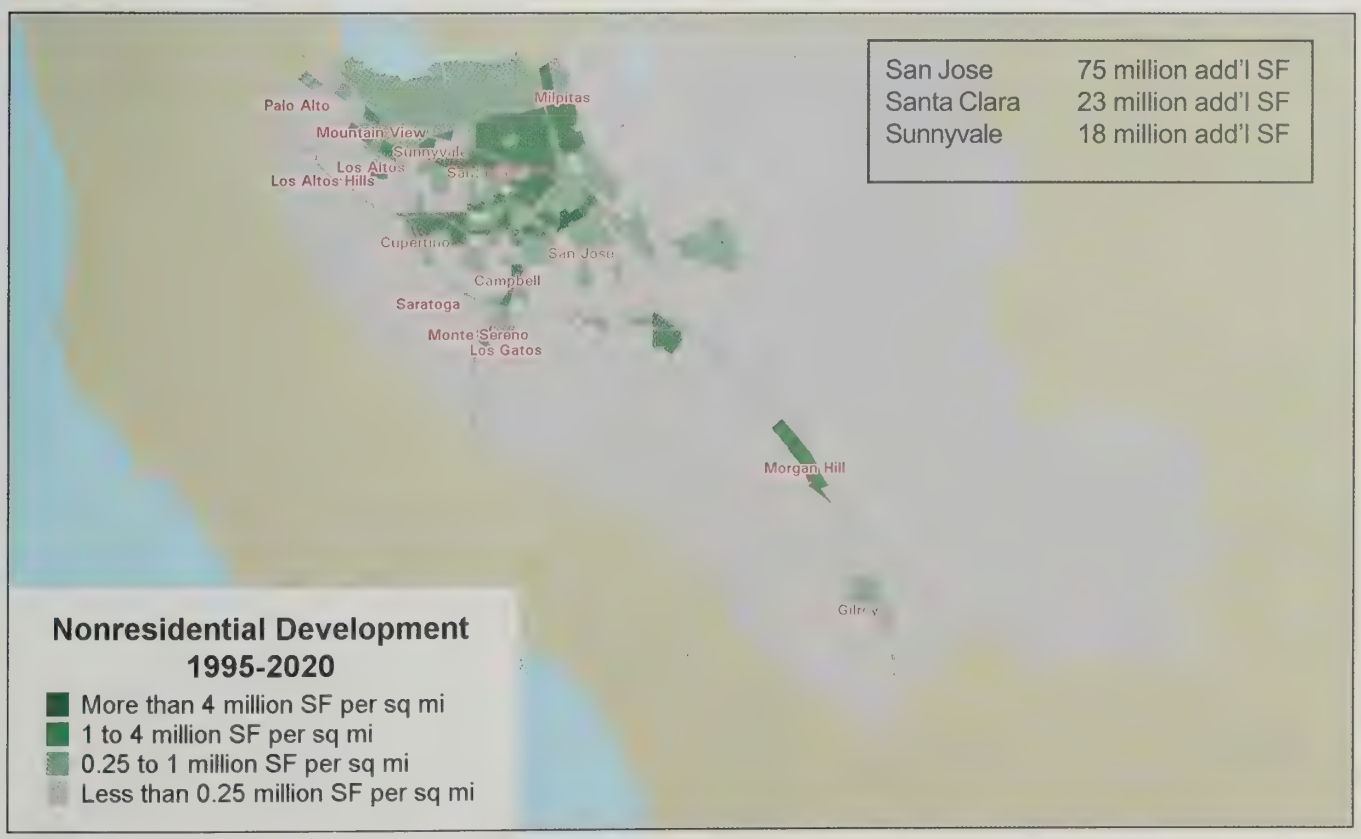

Palo Alto
Mountain View
Los Altos
Los Altos Hills
Campbell
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
San Jose 5,700 new units
Sunnyvale 1,000 new units
Gilroy 1,000 new units
Cupertino 600 new units
Morgan Hill 500 new units
Residential Building Permits
1996-97
More than 40 new units per sq mi
20 to 40 new units per sq mi
10 to 20 new units per sq mi
Fewer than 10 new units per sq mi

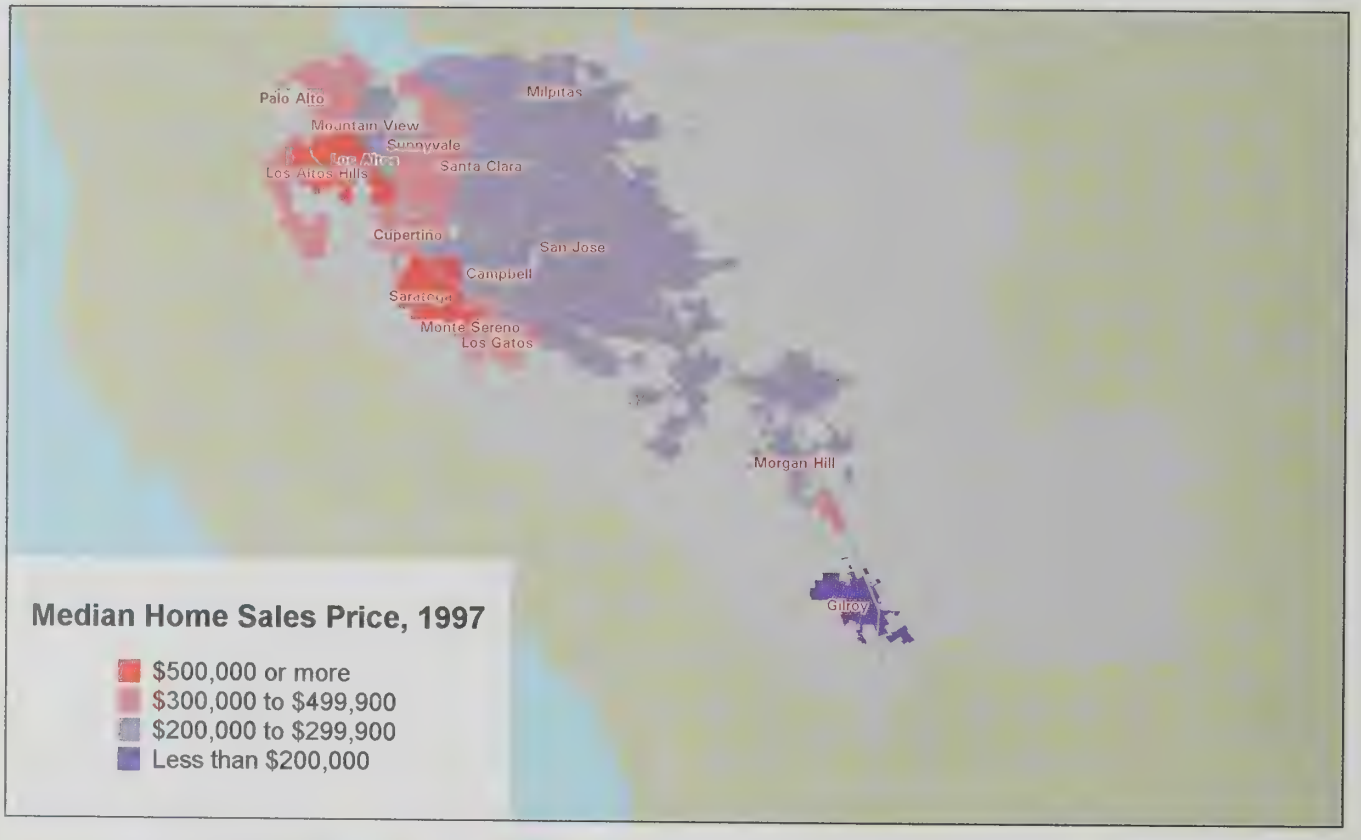

Palo Alto
Los Altos Hills
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
San Jose 4.8 million SF
Santa Clara 2.4 million SF
Milpitas 0.8 million SF
Mtn. View 0.7 million SF
Nonresidential Building Permits
1996-97
More than 40,000 SF per sq mi
20,000 to 40,000 SF per sq mi
10,000 to 20,000 SF per sq mi
Less than 10,000 SF per sq mi


Palo Alto
Milpitas
Mountain View
Sunnyvale
Los Altos
Los Altos Hills
Santa Clara
Cupertino
San Jose
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
Gilroy
Existing Households, 1995
More than 4,000 HH per sq mi
1,000 to 4,000 HH per sq mi
250 to 1,000 HH per sq mi
Fewer than 250 HH per sq mi


Milpitas
Los Altos
Los Altos Hills
Cupertino
San Jose
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
Gilroy
Nonresidential Inventory, 1995
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Palo Alto
Milpitas
Mountain View
Sunnyvale
Los Altos
Santa Clara
Los Altos Hills
Cupertino
San Jose
Campbell
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
Gilroy
San Jose 69,000 new HH
Sunnyvale 9,000 new HH
Gilroy 6,000 new HH
Morgan Hill 6,000 new HH
New Households, 1995-2020
More than 4,000 new HH per sq mi
1,000 to 4,000 new HH per sq mi
250 to 1,000 new HH per sq mi
Fewer than 250 new HH per sq mi


Palo Alto
Milpitas
Mountain View
Los Altos
Los Altos Hills
Cupertino
San Jose
Campbell
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
San Jose 75 million add'l SF
Santa Clara 23 million add'l SF
Sunnyvale 18 million add'l SF
Nonresidential Development
1995-2020
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Palo Alto
Milpitas
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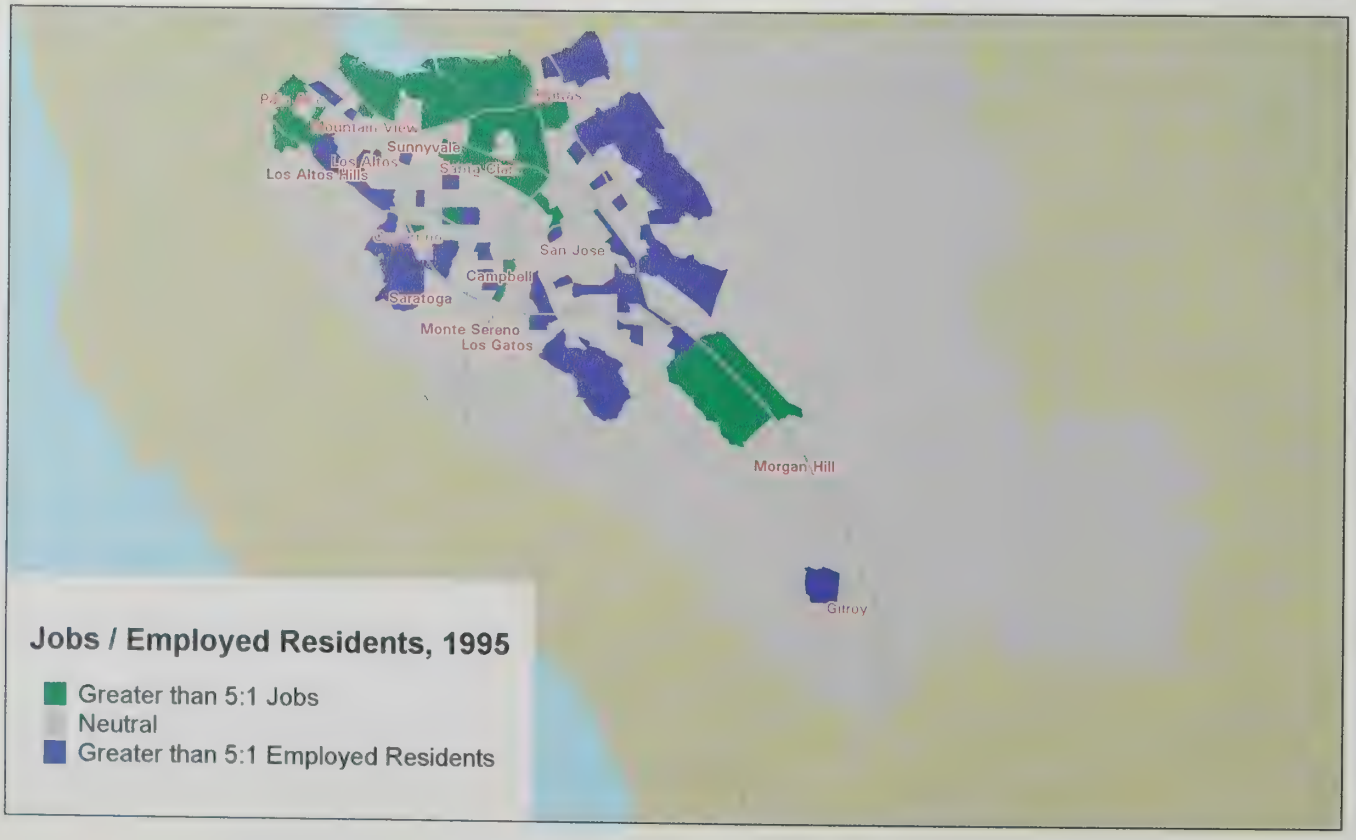
Sunnyvale
Los Altos
Los Altos Hills
Santa Clara
Cupertino
San Jose
Campbell
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
Gilroy
Median Home Sales Price, 1997
$500,000 or more
$300,000 to $499,900
$200,000 to $299,900
Less than $200,000


Mountain View
Sunnyvale
Los Altos
Los Altos Hills
San Jose
Campbell
Saratoga
Monte Sereno
Los Gatos
Morgan Hill
Gilroy
Jobs / Employed Residents, 1995
Greater than 5:1 Jobs
Neutral
Greater than 5:1 Employed Residents

Less Residential Growth

The South Bay's high housing costs already mean that many people who work in Santa Clara County are commuting from lower-cost communities in the East Bay. Some are even stretching beyond the Bay Area's borders, to cities such as Tracy in San Joaquin County and Hollister in San Benito County. This trend is likely to continue. Forecasts put the net number of commuters into Santa Clara County at 116,000 in the year 2000 and over 170,000 in 2020. In 1990, this number was 40,000.

An additional 110,000 households are forecast for the South Bay between 1995 and 2020, primarily in Gilroy, Morgan Hill, and San Jose. Although this represents a 20% increase in the number of households, it is substantially less than the nearly 50% boost expected in the number of jobs. Residential development in the North Bay and East Bay subregions is expected to exceed the South Bay's in number of new households and percentage increase.

WEST BAY

Stable Land Use Patterns

By comparison with the other three subregions, the West Bay—Marin, San Francisco, and San Mateo counties—shows less change, both short-term and long-term. In the case of San Francisco, this is simply because the city has been densely developed for some time and its land use patterns are well established. In Marin County, development is being constrained by local policies. And, on the Peninsula, land use changes are limited by a combination of existing dense development in the eastern corridor and policies that control growth near the coast.

A Home in the City

Even as the South Bay becomes a regional employment and cultural hub, San Francisco retains its primacy. San Francisco is, as much as ever, a desireable place to work, visit and live. This is evident in the city's exceedingly low apartment vacancy rate and its issuing of nearly 2,000 permits for new housing units (mostly multi-family) between January 1996 and July 1997. Although this is significantly lower than the number of permits issued in the East or South Bay, it exceeds the number issued in all of San Mateo County. It is twice the number approved in Marin County during the same period.

Recent Nonresidential Development

Office development in San Francisco has proceeded at a moderate pace in recent years. Activity has been most evident in the South of Market District. The only West Bay cities experiencing signifigant office development recently were San Francisco, Novato, and Redwood City.

San Francisco has also been the site of much of the recent retail/service development in the West Bay. An example is the Sony Entertainment Complex in Yerba Buena Center. Permits issued in San Francisco between January 1996 and June 1997 totaled over one million square feet. The other cities with notable retail/service development—Colma, San Mateo, and Belmont—together totaled 700,000 square feet. Industrial development has been slow in all parts of the West Bay.

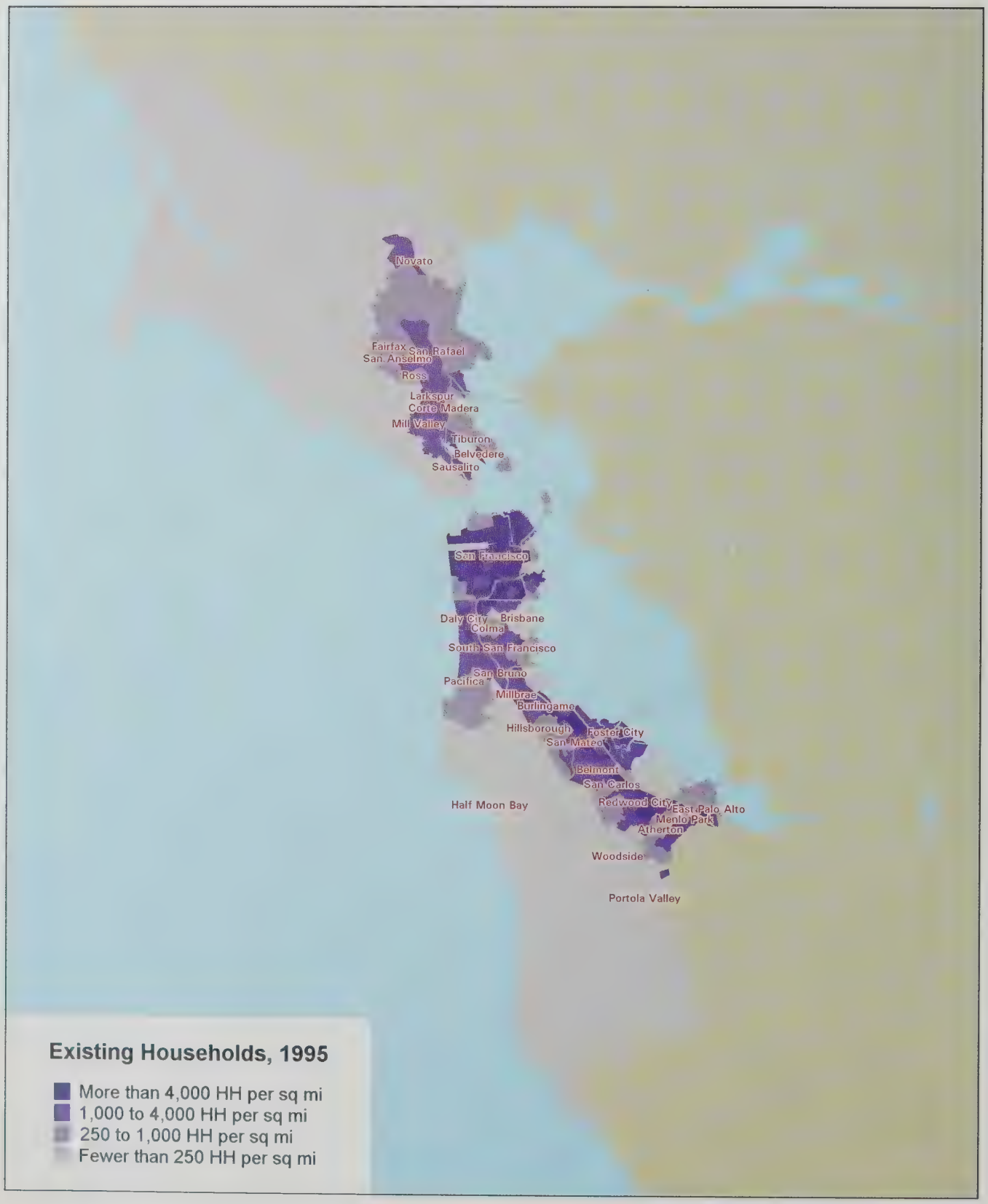
Long-Range Forecast

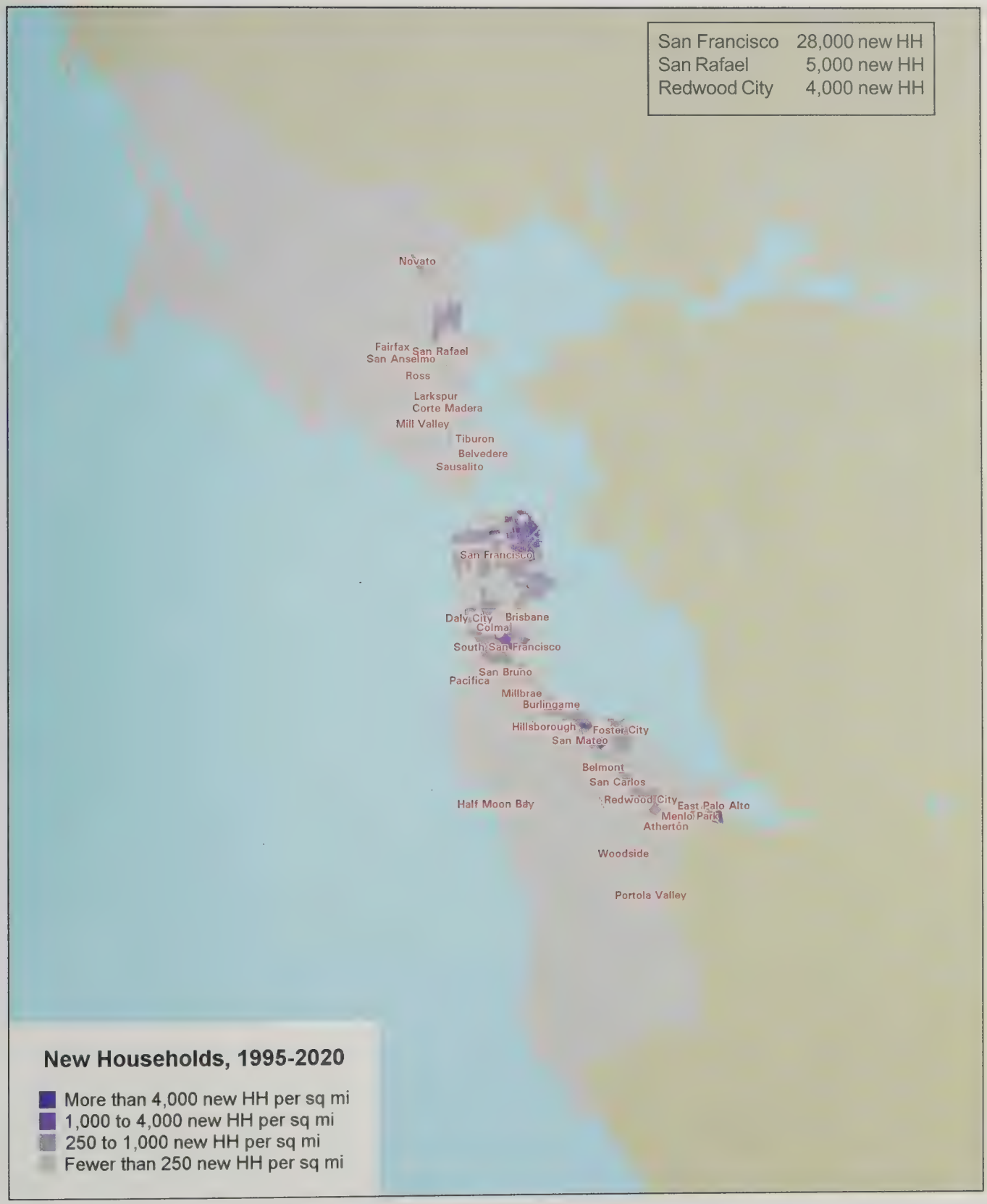
Modest growth is the headline for the West Bay. In most cities, the number of households is forecast to increase by only about 10% between 1995 and 2020. Even in cases where larger percentage increases are forecast—Brisbane, East Palo Alto, and Half Moon Bay—the absolute number of households is modest. In these small cities, even increases of 40 to 80% translate into only a few thousand new housing units.

Generally, more nonresidential development is expected between 1995 and 2020 than residential development. Still, nonresidential growth will be modest. A 20% increase in the inventory of nonresidential buildings is projected for most of the West Bay. The strongest surge will be in Novato, which has recently experienced a spurt of nonresidential development.

[continued on page 25]


San Francisco 2,000 new units
Redwood City 500 new units
Daly City 200 new units
Novato 200 new units
Novato
Fairfax
San Anselmo
San Rafael
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
Daly City
Brisbane
Colma
South San Francisco
San Bruno
Pacifica
Millbrae
Burlingame
Hillsborough
Foster City
San Mateo
Belmont
San Carlos
Half Moon Bay
Redwood City
East Palo Alto
Menlo Park
Atherton
Woodside
Portola Valley
Residential Building Permits
1996-97
More than 40 new units per sq mi
20 to 40 new units per sq mi
10 to 20 new units per sq mi
Fewer than 10 new units per sq mi


Novato
Fairfax
San Rafael
San Anselmo
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
San Francisco
Daly City
Brisbane
Colma
South San Francisco
San Bruno
Pacifica
Millbrae
Burlingame
Hillsborough
Foster City
San Mateo
Belmont
San Carlos
Half Moon Bay
Redwood City
East Palo Alto
Menlo Park
Atherton
Woodside
Portola Valley
Existing Households, 1995
More than 4,000 HH per sq mi
1,000 to 4,000 HH per sq mi
250 to 1,000 HH per sq mi
Fewer than 250 HH per sq mi


San Francisco 28,000 new HH
San Rafael 5,000 new HH
Redwood City 4,000 new HH
Novato
Fairfax
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San Anselmo
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Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
San Francisco
Daly City
Brisbane
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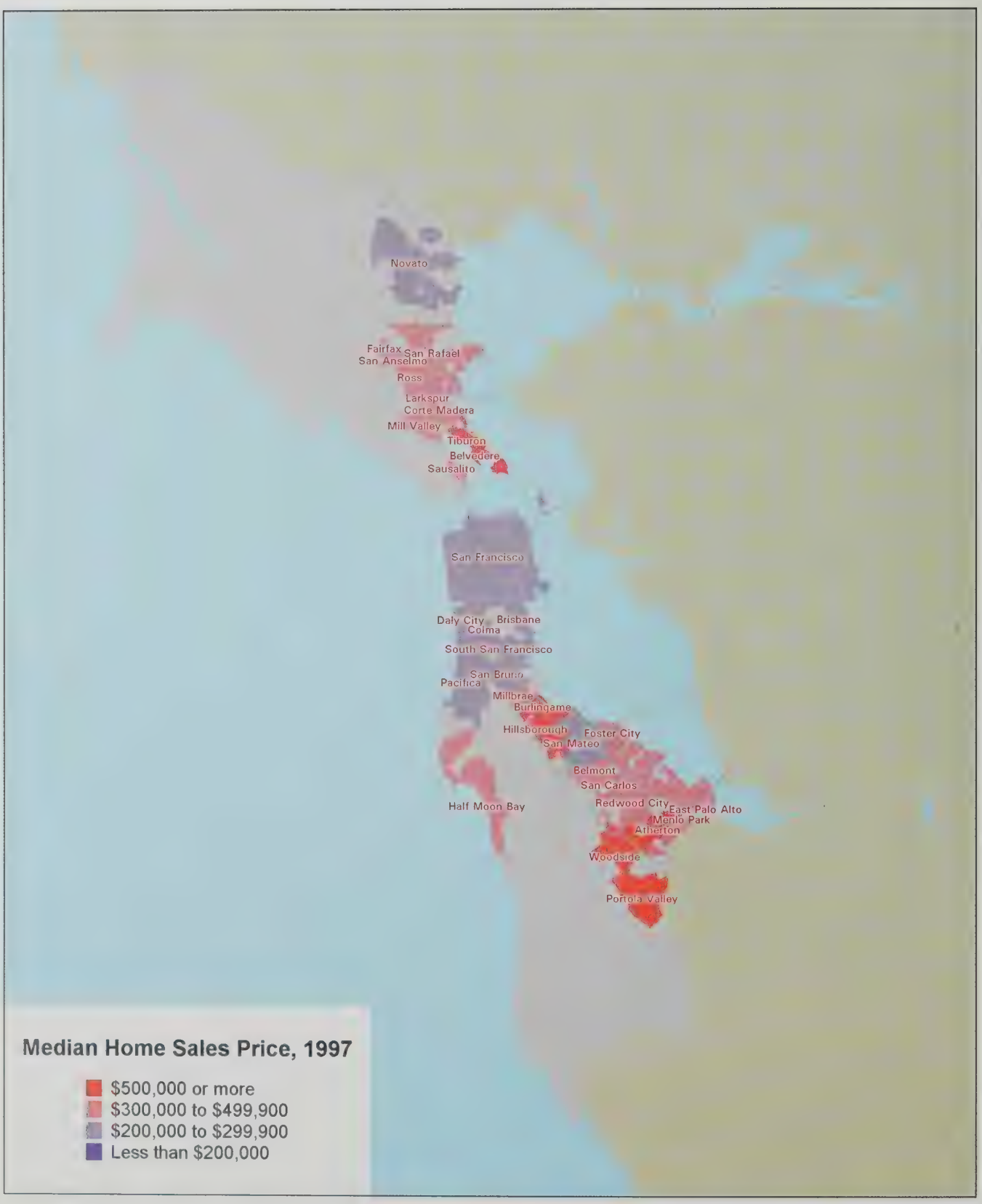
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Median Home Sales Price, 1997
$500,000 or more
$300,000 to $499,900
$200,000 to $299,900
Less than $200,000


San Francisco 1.7 million SF
Redwood City 1.2 million SF
San Mateo 0.6 million SF
Novato
Fairfax
San Rafael
San Anselmo
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
San Francisco
Daly City
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10,000 to 20,000 SF per sq mi
Less than 10,000 SF per sq mi


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Colma
South San Francisco
San Bruno
Pacifica
Millbrae
Burlingame
Hillsborough
Foster City
San Mateo
Belmont
San Carlos
Half Moon Bay
Redwood City
East Palo Alto
Menlo Park
Atherton
Woodside
Portola Valley
Nonresidential Inventory, 1995
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


San Francisco 62 million add'l SF
Novato 7 million add'l SF
San Mateo 7 million add'l SF
Novato
Fairfax
San Rafael
San Anselmo
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
San Francisco
Daly City
Brisbane
Colma
South San Francisco
San Bruno
Pacifica
Millbrae
Burlingame
Hillsborough
Foster City
San Mateo
Belmont
San Carlos
Redwood City
East Palo Alto
Menlo Park
Atherton
Half Moon Bay
Woodside
Portola Valley
Nonresidential Development
1995-2020
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Novato
Fairfax
San Anselmo
San Rafael
Ross
Larkspur
Corte Madera
Mill Valley
Tiburon
Belvedere
Sausalito
San Francisco
Daly City
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Colma
South San Francisco
San Bruno
Pacifica
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Burlingame
Hillsborough
Foster City
San Mateo
Belmont
San Carlos
Redwood City
East Palo Alto
Menlo Park
Atherton
Half Moon Bay
Woodside
Portola Valley
Jobs / Employed Residents, 1995
Greater than 5:1 Jobs
Neutral
Greater than 5:1 Employed Residents

In San Francisco, continued activity is expected South of Market. Half of the city's anticipated office development over the next 20 years is expected in this area.

The Transbay Redevelopment Area–between the Bay Bridge, Mission Street and Yerba Buena Gardens– is projected to generate up to 6 million square feet of office, as well as up to 4,000 housing units and between one and two million square feet of retail, institutional-use, and hotel space.

The portion of Mission Bay south of China Basin is another location where development activity is anticipated. The development program for this area is now centered around a new UC-San Francisco campus. The project could generate up to 3 million square feet of educational space, 3.5 million square feet of research & development/office space targeted to the biotech industry, and 3,000 housing units.

EAST BAY

Densely-Developed Urban Core

For decades, the East Bay's urban core cities have been a vibrant center of activity for the region. They remain so today. The cities of Richmond, Berkeley, and Oakland cover only 7% of the land area in Alameda and Contra Costa Counties, yet they contain 27% of the population and provide more than 30% of the jobs in these counties. Along with San Francisco, these cities are the most densely developed in the region.

Tri-Valley: Offices . . and Housing

Much development is now occurring outside these core cities. Among the Bay Area's four subregions, the East Bay shows the most dramatic shift in new development towards outer suburbs. Major office park development in the Tri-Valley communities of San Ramon, Dublin, Pleasanton, and Livermore resulted in a doubling of employment in the area during the 1980s. Further development continues today. Bishop Ranch, in San Ramon, is about to open 900,000 square feet of office space and will break ground on another 900,000 square feet in 1998. In Pleasanton, between January 1996 and June 1997, building permits were issued for one million square feet of office space and 600,000 square feet of retail/service space.

The large amount of office and retail/service development in the Tri-Valley Area is now being accompanied by housing development. Residential building permit activity in San Ramon, Dublin, Pleasanton, and Livermore is among the most vigorous in the region. Permits for over 2,800 units were issued between January 1996 and June 1997.

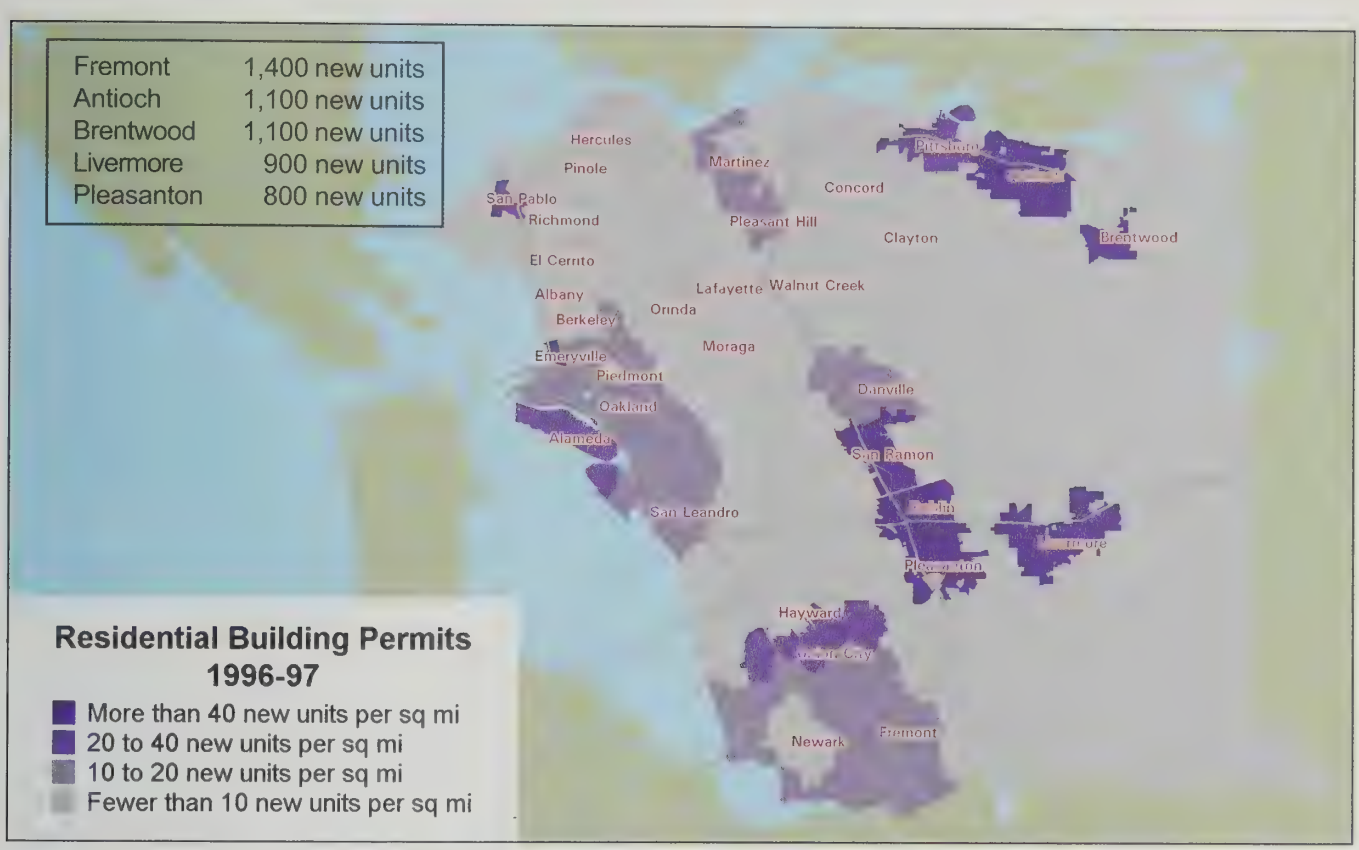
The Lure of an Affordable New Home

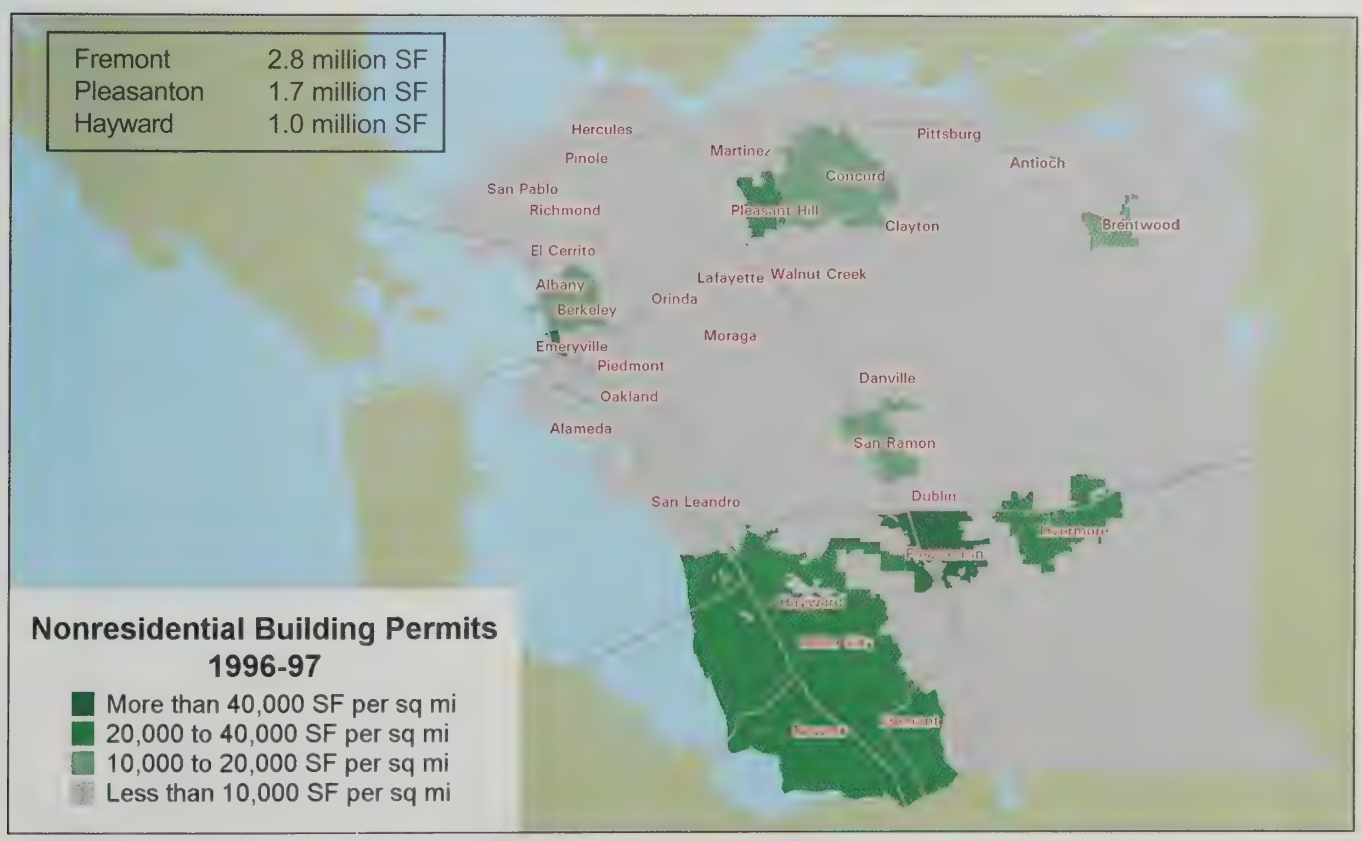
Residential building is not restricted to the Tri-Valley area, though. Brentwood, in eastern Contra Costa County, has had a burst of new growth. In 1995, the city had 4,500 households. But, in the first six months of 1997 alone, the city issued permits for an additional 300 single-family and 200 multi-family units. Antioch, to the west of Brentwood, issued permits for nearly 400 single-family units during the same period.

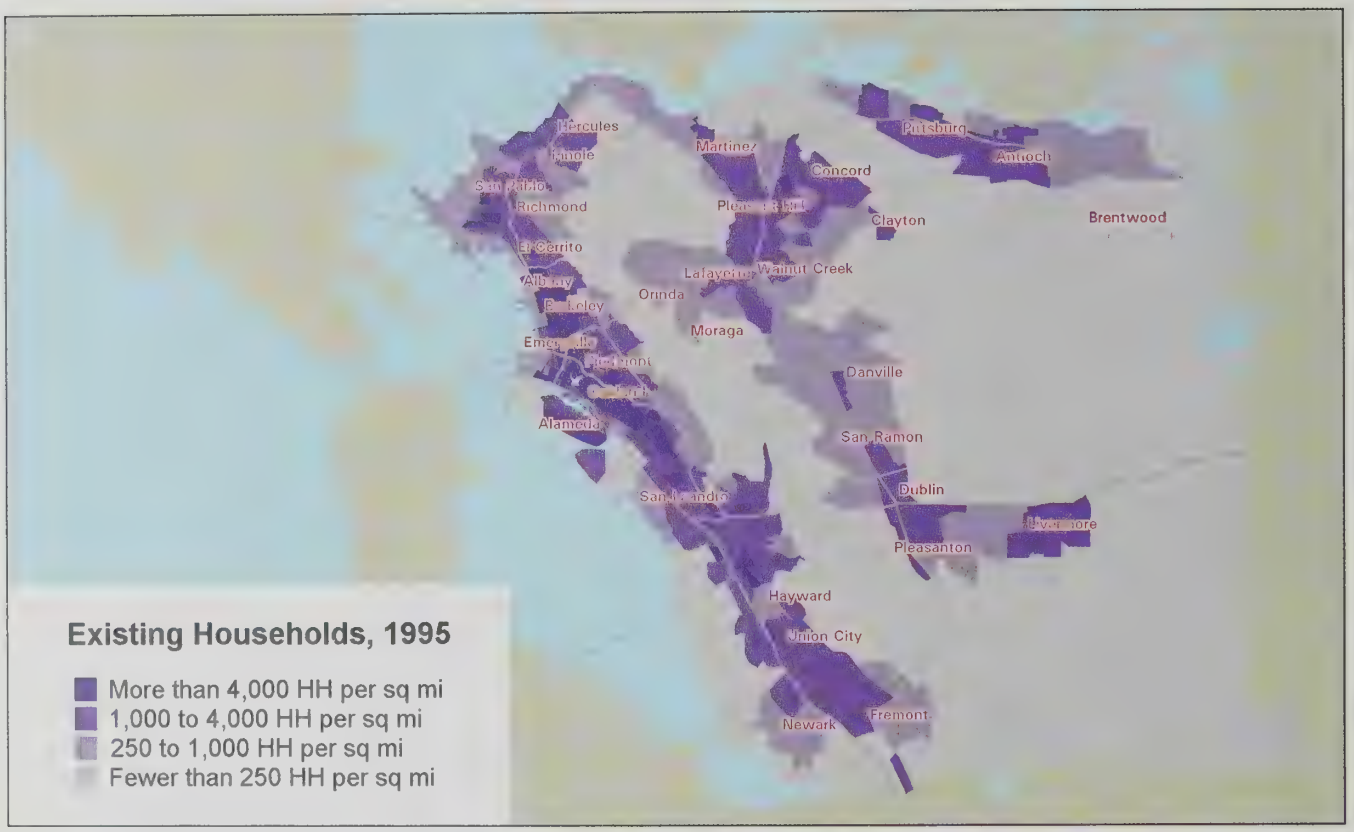
While in the Tri-Valley, office and light-industrial development preceded housing development, the boom in eastern Contra Costa County has been almost exclusively in residential development. Despite long commutes to Walnut Creek and the Tri-Valley, or longer commutes to San Francisco and the South Bay, buyers are attracted by home prices substantially lower than in other parts of the region. The median sales price of homes in Antioch and Brentwood (new and existing) is approximately half the median price for the region as a whole.

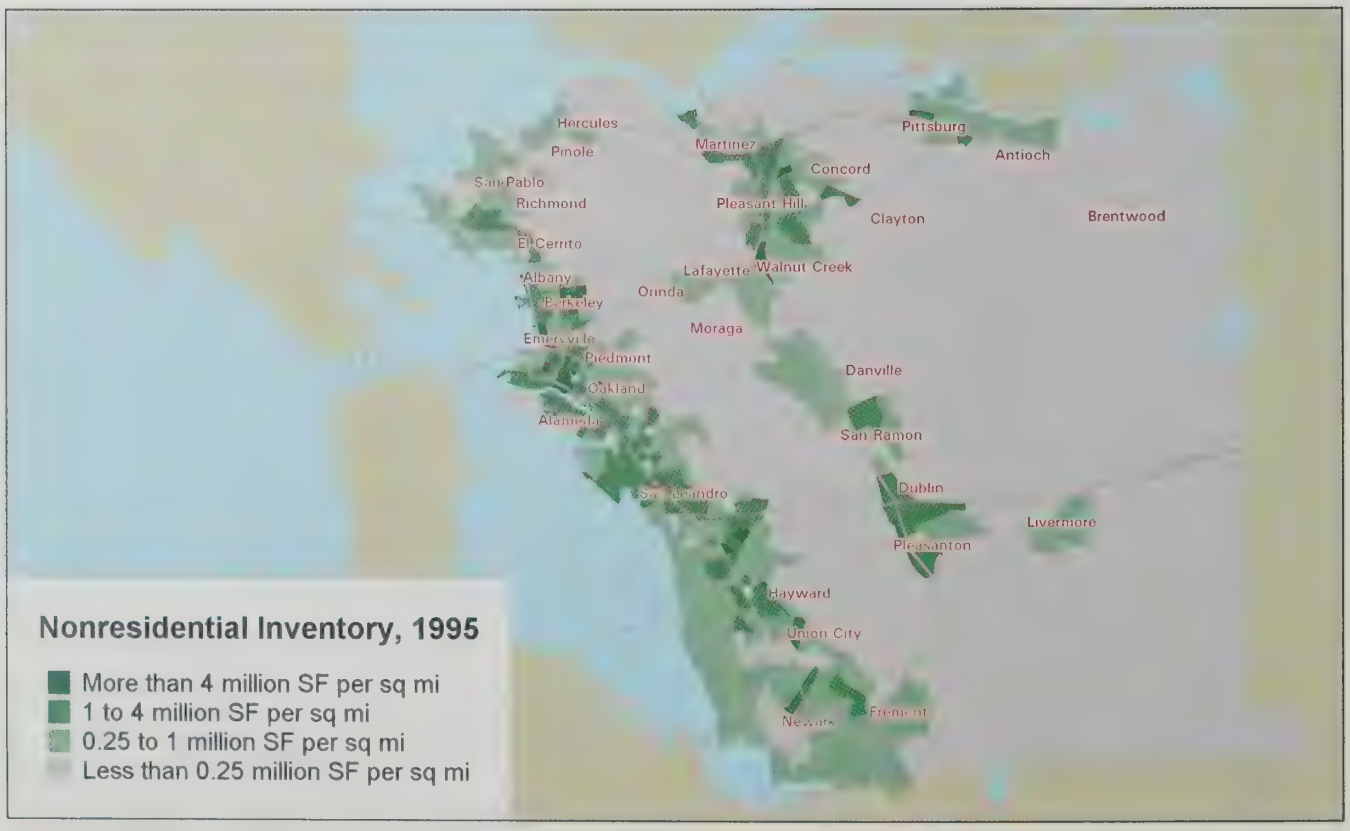
Industry in Fremont

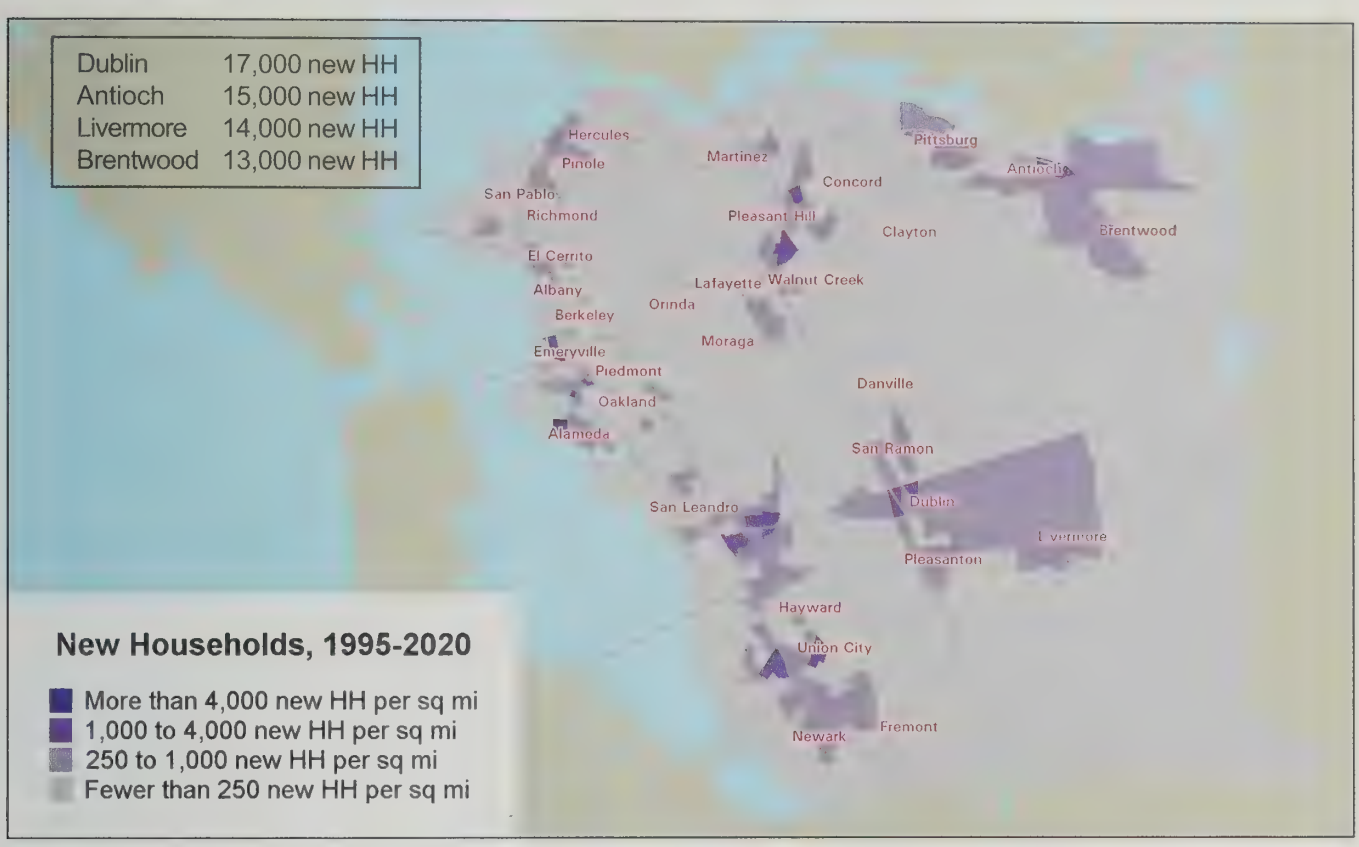
Homes in eastern Contra Costa County are attractive because they are generally lower priced than in the central part of the county and because the large number of new homes offers buyers greater choice and flexibility. These factors are equally important in other areas and for other types of property. Light-industrial space in southern Alameda County is a perfect example. With a very tight market for space in Santa Clara County, businesses are looking north. As a result, Fremont accounted for one quarter of all recent industrial building per-

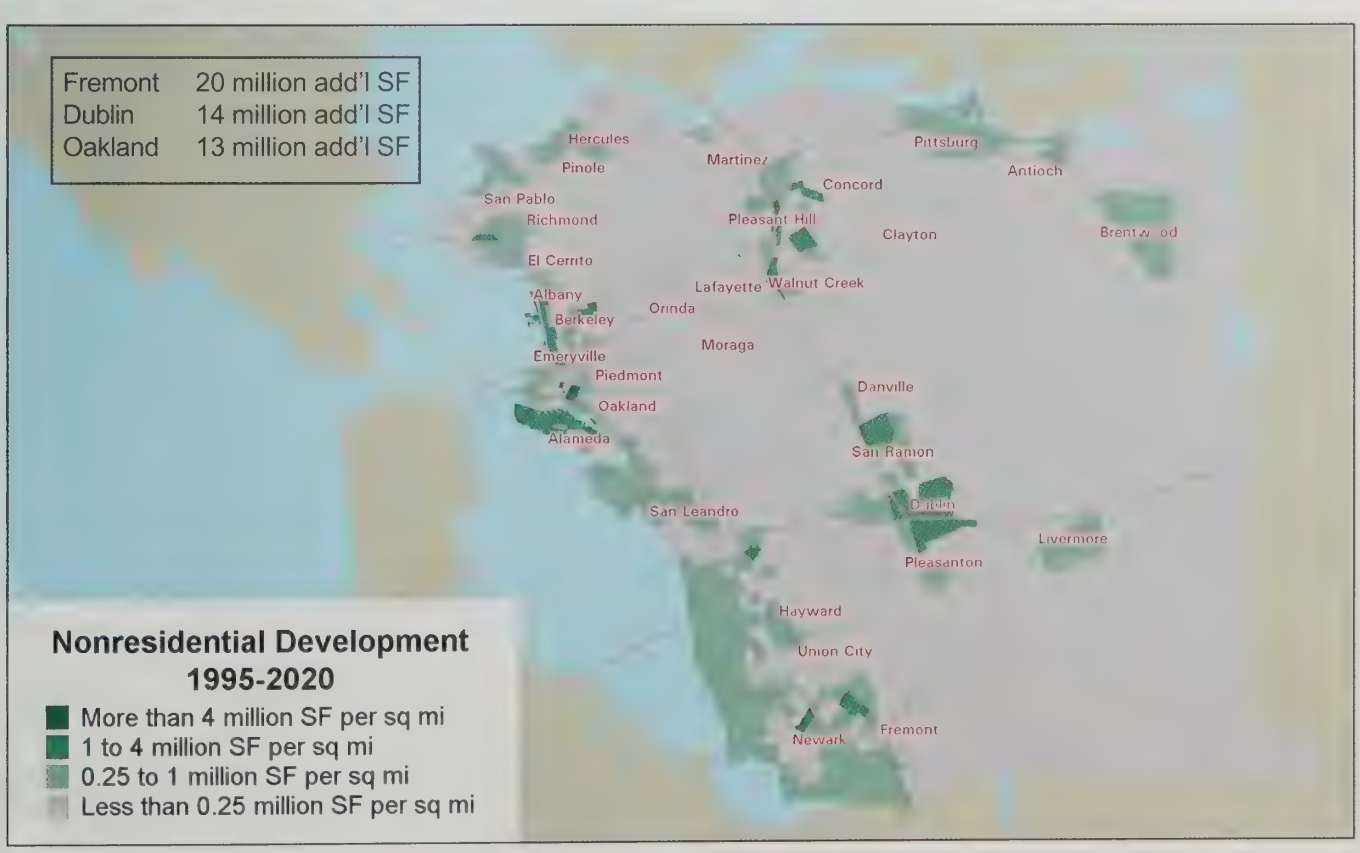

Fremont 1,400 new units
Antioch 1,100 new units
Brentwood 1,100 new units
Livermore 900 new units
Pleasanton 800 new units
Residential Building Permits 1996-97
More than 40 new units per sq mi
20 to 40 new units per sq mi
10 to 20 new units per sq mi
Fewer than 10 new units per sq mi
Hercules
Pinole
Martinez
Pittsburg
San Pablo
Richmond
Concord
Pleasant Hill
Clayton
Brentwood
El Cerrito
Albany
Lafayette
Walnut Creek
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
San Leandro
Hayward
Newark
Fremont

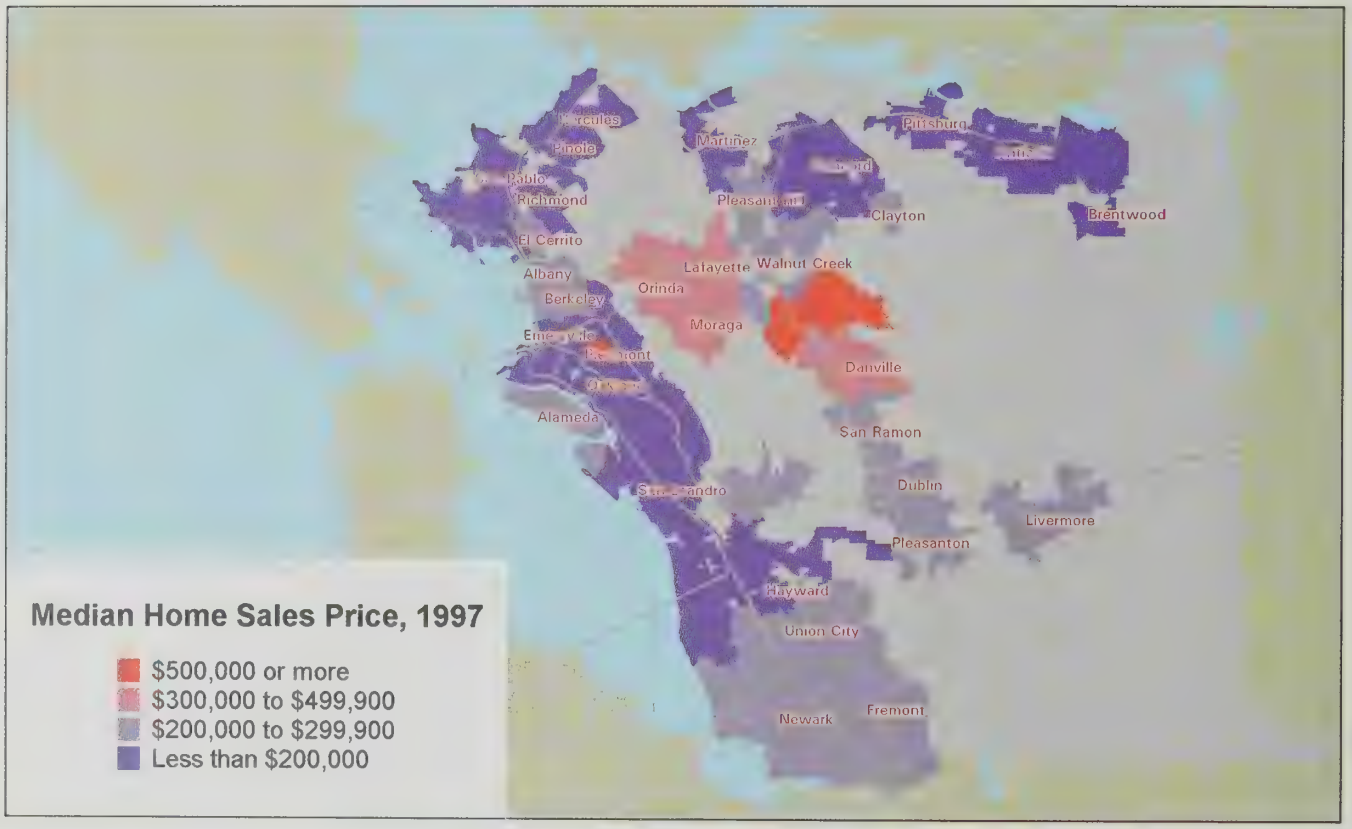

Fremont 2.8 million SF
Pleasanton 1.7 million SF
Hayward 1.0 million SF
Nonresidential Building Permits 1996-97
More than 40,000 SF per sq mi
20,000 to 40,000 SF per sq mi
10,000 to 20,000 SF per sq mi
Less than 10,000 SF per sq mi
Hercules
Pinole
Martinez
Pittsburg
Antioch
San Pablo
Richmond
Concord
Pleasant Hill
Clayton
Brentwood
El Cerrito
Albany
Lafayette
Walnut Creek
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
San Leandro
Dublin

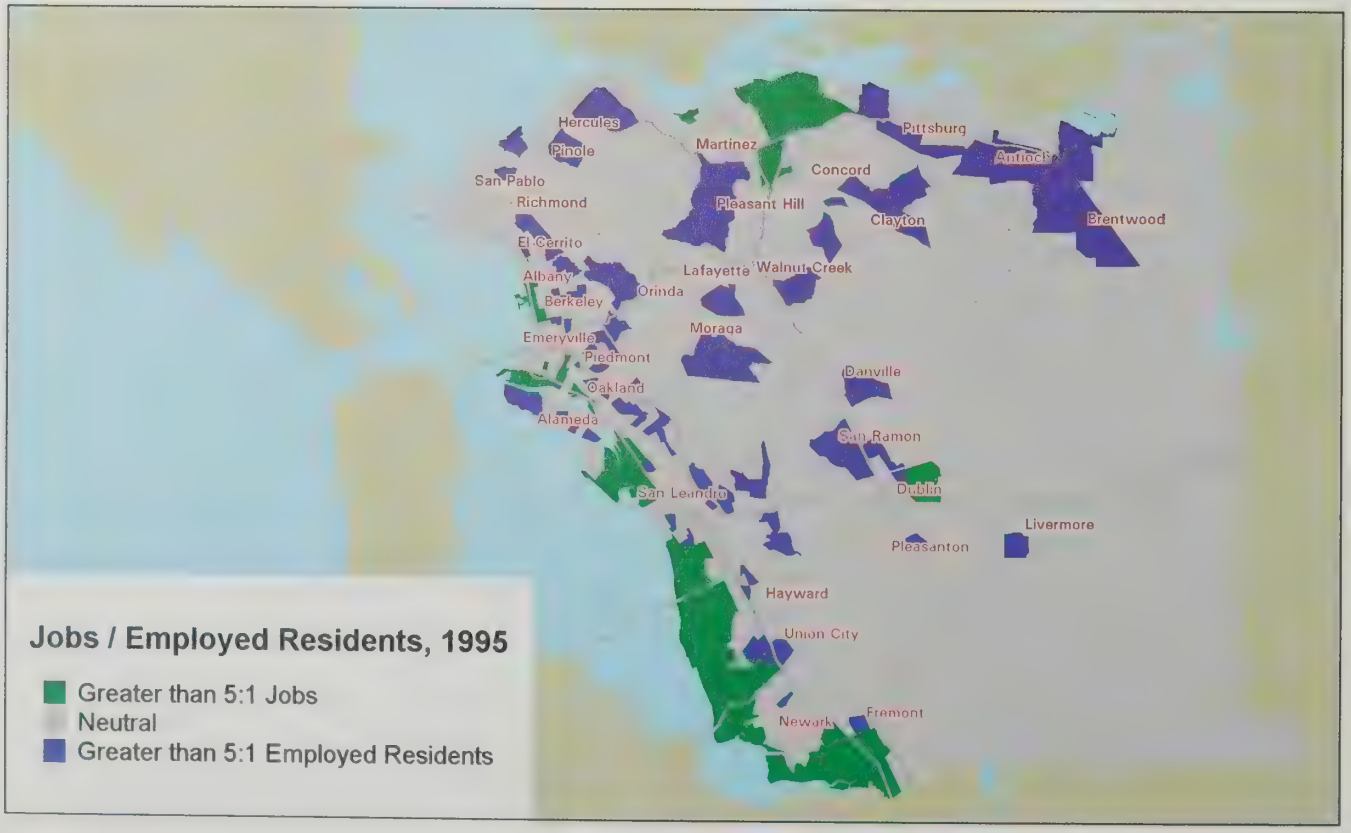

Existing Households, 1995
More than 4,000 HH per sq mi
1,000 to 4,000 HH per sq mi
250 to 1,000 HH per sq mi
Fewer than 250 HH per sq mi
Hercules
Martinez
Pittsburg
Antioch
Concord
Richmond
Clayton
Brentwood
El Cerrito
Lafayette
Walnut Creek
Orinda
Moraga
Danville
Alameda
San Ramon
Dublin
Pleasanton
Hayward
Union City
Newark
Fremont


Nonresidential Inventory, 1995
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi
Hercules
Pinole
Martinez
Pittsburg
Antioch
Concord
San Pablo
Richmond
Pleasant Hill
Clayton
Brentwood
El Cerrito
Lafayette
Walnut Creek
Albany
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
Dublin
Livermore
Pleasanton
Hayward
Union City
Fremont


Dublin 17,000 new HH
Antioch 15,000 new HH
Livermore 14,000 new HH
Brentwood 13,000 new HH
Hercules
Pinole
Martinez
Pittsburg
Antioch
San Pablo
Concord
Richmond
Pleasant Hill
Clayton
Brentwood
El Cerrito
Albany
Lafayette
Walnut Creek
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
San Leandro
Dublin
Livermore
Pleasanton
Hayward
Union City
Newark
Fremont
New Households, 1995-2020
More than 4,000 new HH per sq mi
1,000 to 4,000 new HH per sq mi
250 to 1,000 new HH per sq mi
Fewer than 250 new HH per sq mi


Fremont 20 million add'l SF
Dublin 14 million add'l SF
Oakland 13 million add'l SF
Hercules
Pinole
Martinez
Pittsburg
Antioch
San Pablo
Concord
Richmond
Pleasant Hill
Clayton
El Cerrito
Albany
Lafayette
Walnut Creek
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
San Leandro
Livermore
Pleasanton
Hayward
Union City
Newark
Fremont
Nonresidential Development 1995-2020
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Pittsburg
Martinez
Pinole
Richmond
Pleasant Hill
Clayton
Brentwood
El Cerrito
Albany
Lafayette
Walnut Creek
Orinda
Berkeley
Moraga
Danville
Alameda
San Ramon
Dublin
Livermore
Pleasanton
Hayward
Union City
Newark
Fremont
Median Home Sales Price, 1997
$500,000 or more
$300,000 to $499,900
$200,000 to $299,900
Less than $200,000


Hercules
Pinole
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Pittsburg
San Pablo
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Richmond
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Walnut Creek
Orinda
Berkeley
Moraga
Emeryville
Piedmont
Danville
Oakland
Alameda
San Ramon
San Leandro
Dublin
Livermore
Pleasanton
Hayward
Union City
Newark
Fremont
Jobs / Employed Residents, 1995
Greater than 5:1 Jobs
Neutral
Greater than 5:1 Employed Residents

mit activity in the Bay Area. The activity in Fremont far exceeds every other area in the East Bay and totals more than two million square feet for 1996 and the first half of 1997. This continues an upward trend in the amount of high technology manufacturing in the region.

Continued Growth Likely

Long-range forecasts show continued strength in both residential and nonresidential development for many parts of the East Bay. More new households and jobs are forecast for the East Bay than for any of the other subregions. ABAG forecasts an increase of 435,000 jobs and nearly 200,000 households between 1995 and 2020.

The Tri-Valley and eastern Contra Costa County are expected to continue their strong growth, remaining the East Bay's most intense areas of development. In Dublin, for example, the number of households and jobs are both forecast to triple between 1995 and 2020. In Brentwood, both are forecast to quadruple in the same period.

In the older areas, Emeryville's redevelopment is expected to continue. The reuse of the Alameda Naval Airstation and large properties in Hercules will present opportunities for (primarily commercial/industrial) development.

NORTH BAY

A Less Urban Character

The character of the North Bay is strikingly different from the Bay Area's other three subregions. Only 9% of its land base was classified as urbanized in 1995. This compares to 26% for the rest of the region. Additionally, almost 30% of the North Bay is devoted to agriculture, three times as much as the rest of the region.

Recent Activity in Sonoma and Napa Counties

In Sonoma and Napa Counties, housing and jobs are concentrated in and around Santa Rosa and the City of Napa. These two cities currently contain 40% of the households and over 50% of the jobs in the two counties.

As the major city in Sonoma County, Santa Rosa issued permits for 850 new housing units between January 1996 and June 1997—one third of the county's total. Santa Rosa also accounted for one third of the county's new retail/service space. However, it saw little new office or industrial development. Recently, this development has been concentrated in Petaluma and Rohnert Park.

In Napa County, the cities of Napa and American Canyon have seen moderate retail/service activity. The most intense industrial development activity has occurred in the Airport Industrial Area, south of the City of Napa, in unincorporated Napa County. Here, permits were issued for nearly 400,000 square feet of industrial space in 1996. No city in the county has experienced substantial residential or office development.

Recent Activity in Solano County

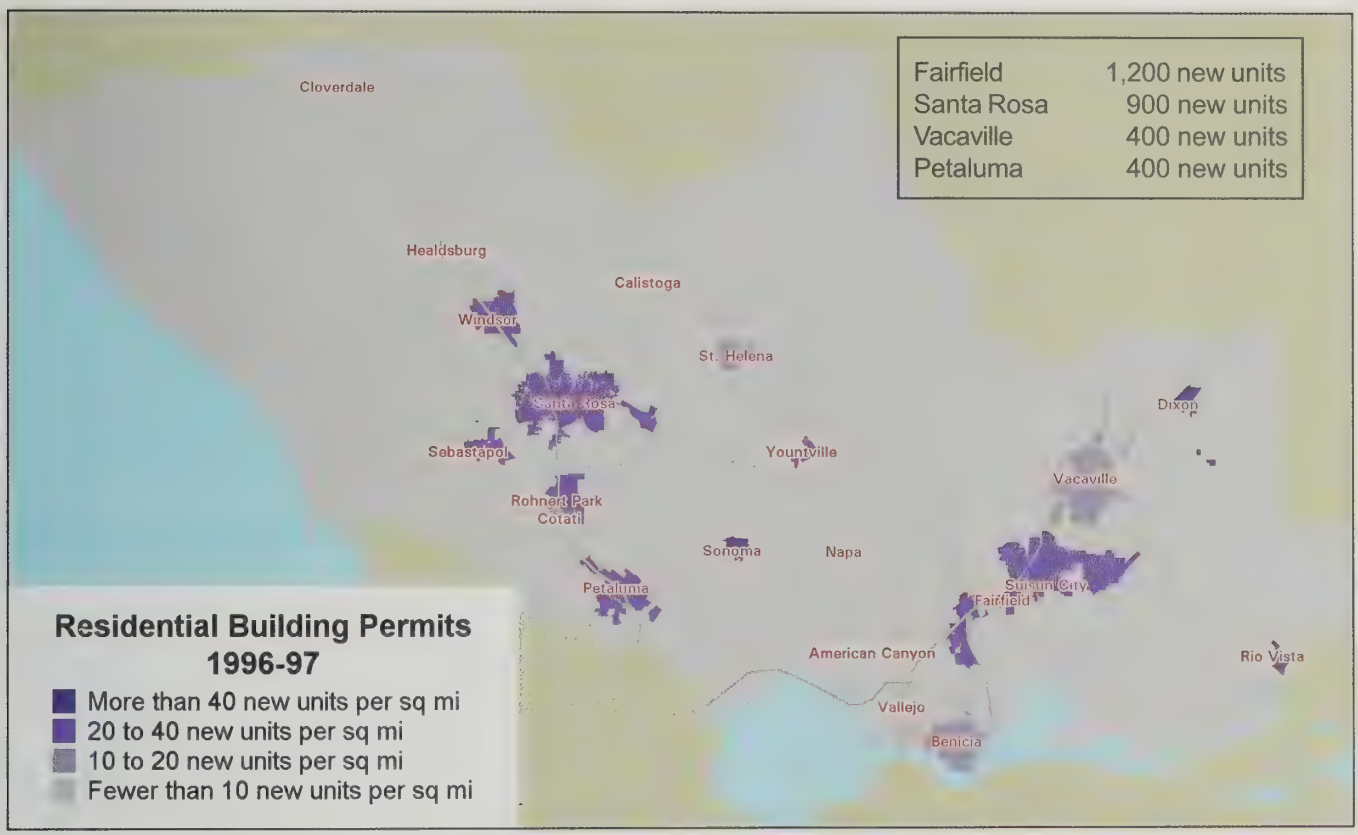
Solano County contains three population and job centers: Vallejo, Vacaville, and Fairfield. Vallejo, disrupted by the recent closing of Mare Island Naval Shipyard, has seen little development activity. Vacaville has issued a moderate number of residential permits recently. It has also accounted for half of the retail/service development activity in the county. The 200,000 square feet of retail/service space permitted between January 1996 and June 1997 was the largest volume of any North Bay city. Fairfield has been active in all development categories except retail/service. Fairfield's 1,200 recent housing unit permits – the most of any city in the North Bay – also constitute half of the county total. It has been the site of moderate industrial development and virtually all recent office development in the county.

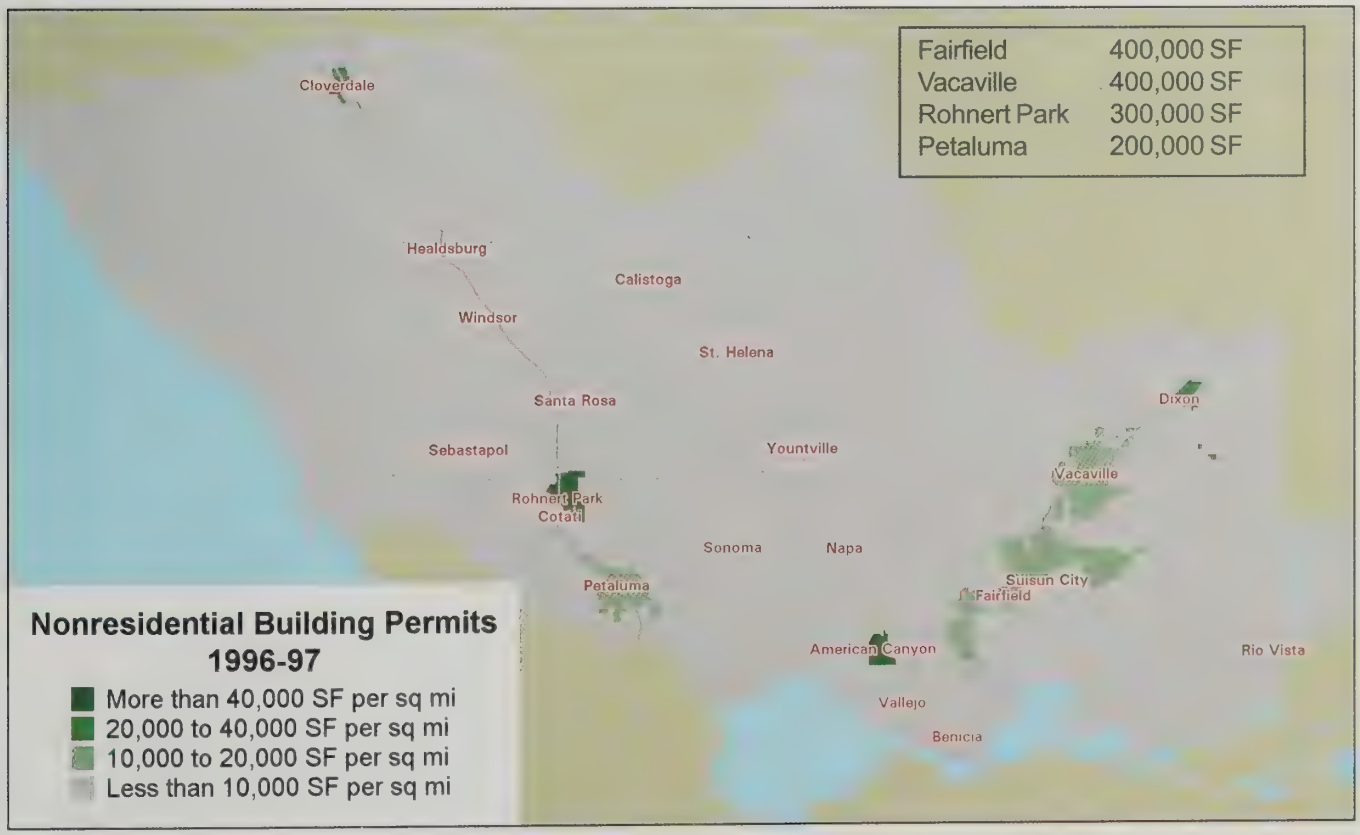
Long-Range Forecast

The North Bay is second only to the East Bay among the four subregions in terms of the projected number of new households. Between 1995 and 2020, a total of 130,000 households are expected, primarily in Sonoma and Solano Counties. Santa Rosa, Vacaville, and Fairfield are each forecast to add more than 15,000 new households during the period.

Job growth in the North Bay, and the accompanying nonresidential development, are forecast to be every bit as intense as residential development. All of the existing job centers, including Vallejo, are expected to undergo at least 50% growth during the forecast period.

[continued on page 37]


Fairfield 1,200 new units
Santa Rosa 900 new units
Vacaville 400 new units
Petaluma 400 new units
Residential Building Permits
1996-97
More than 40 new units per sq mi
20 to 40 new units per sq mi
10 to 20 new units per sq mi
Fewer than 10 new units per sq mi
Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Sebastapol
Yountville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Vacaville
Dixon
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia


Fairfield 400,000 SF
Vacaville 400,000 SF
Rohnert Park 300,000 SF
Petaluma 200,000 SF
Nonresidential Building Permits
1996-97
More than 40,000 SF per sq mi
20,000 to 40,000 SF per sq mi
10,000 to 20,000 SF per sq mi
Less than 10,000 SF per sq mi
Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Sebastapol
Yountville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Vacaville
Dixon
Suisun City
Fairfield
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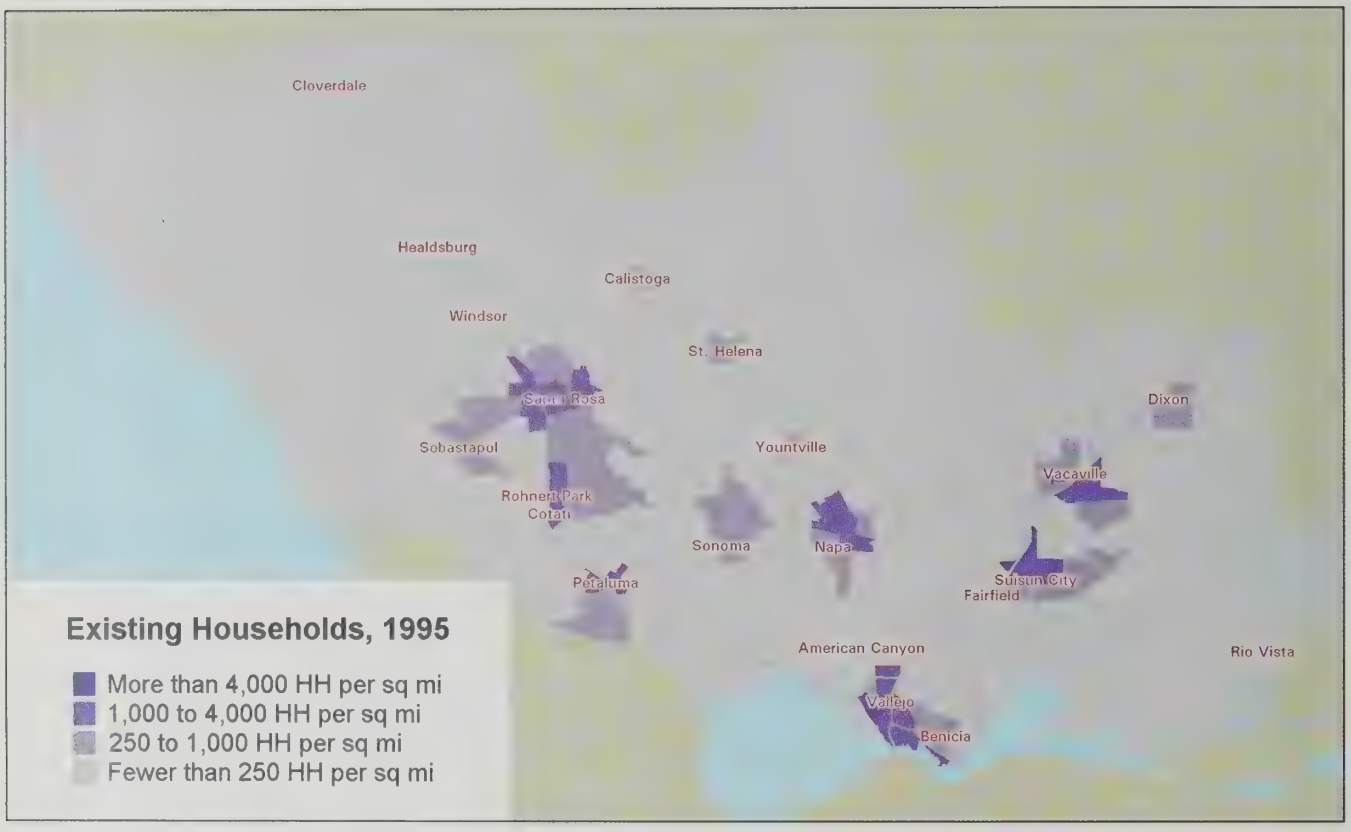
Rio Vista
Vallejo
Benicia


Cloverdale
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Vacaville
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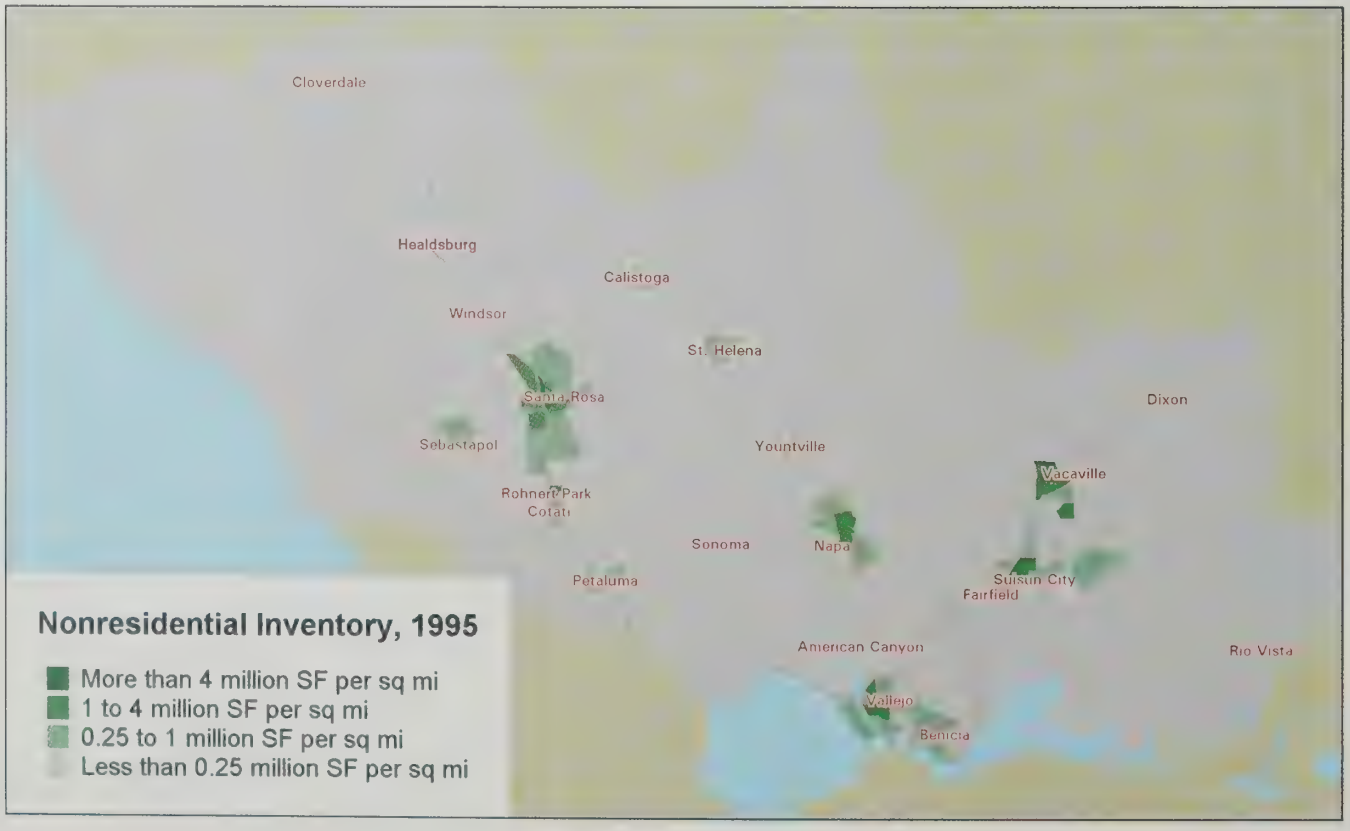
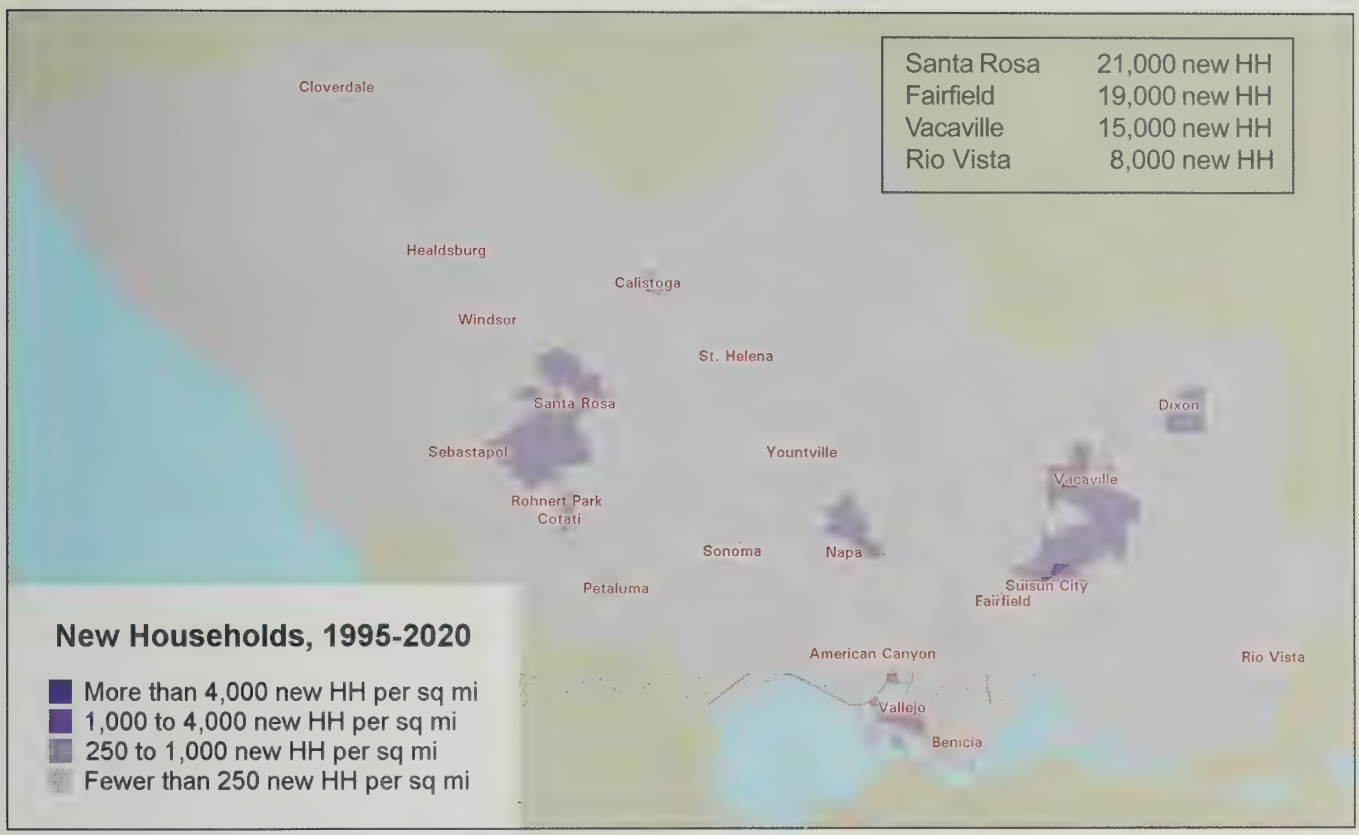
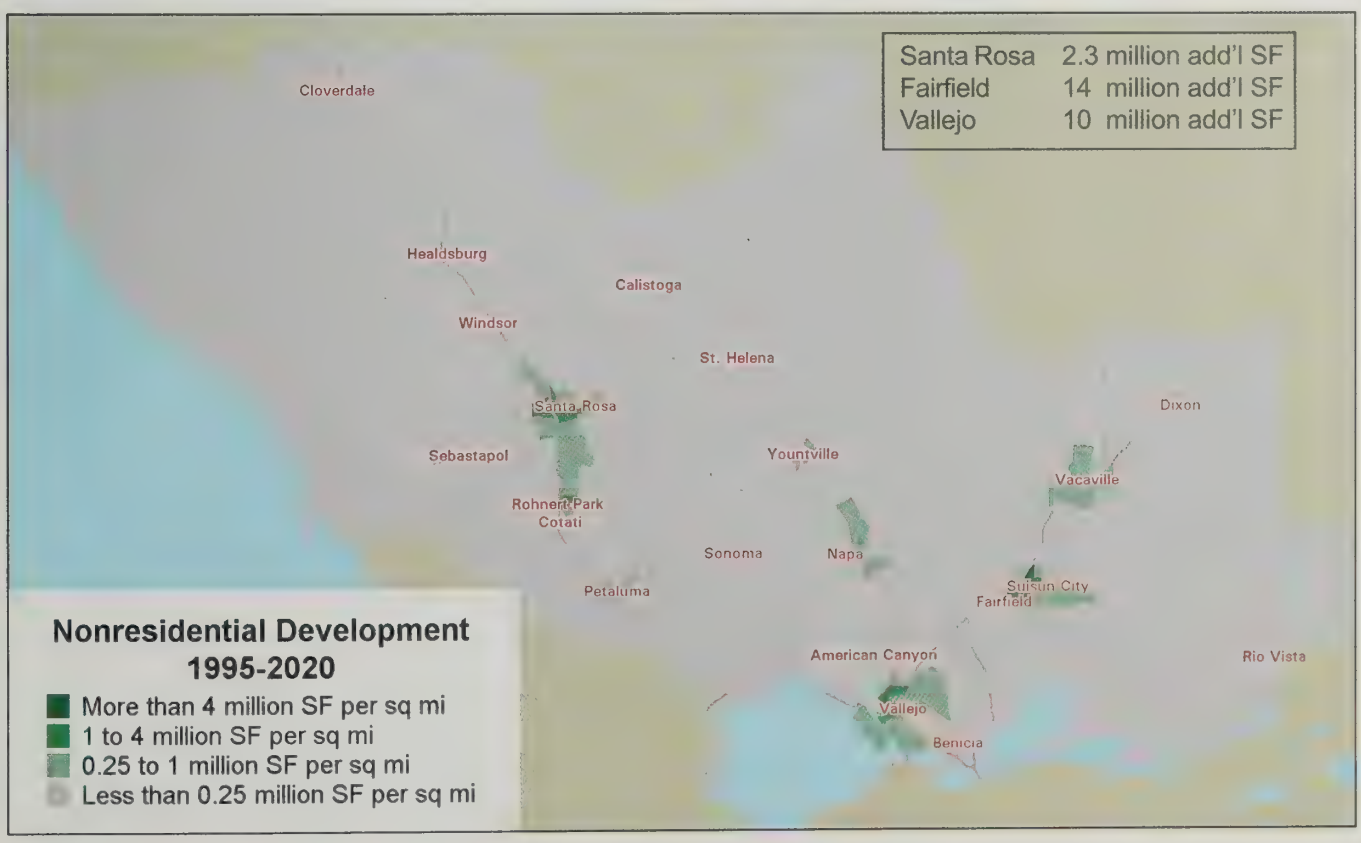
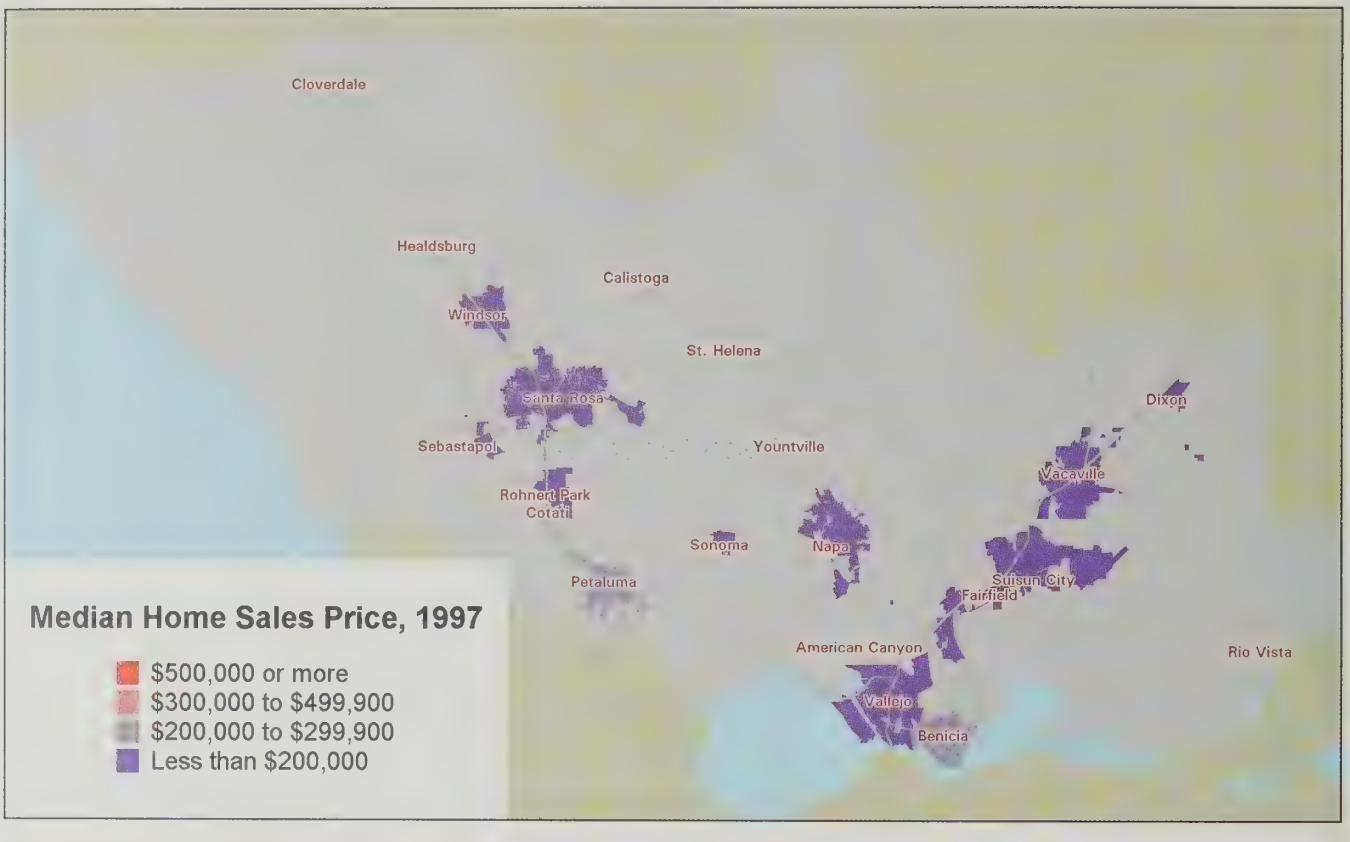
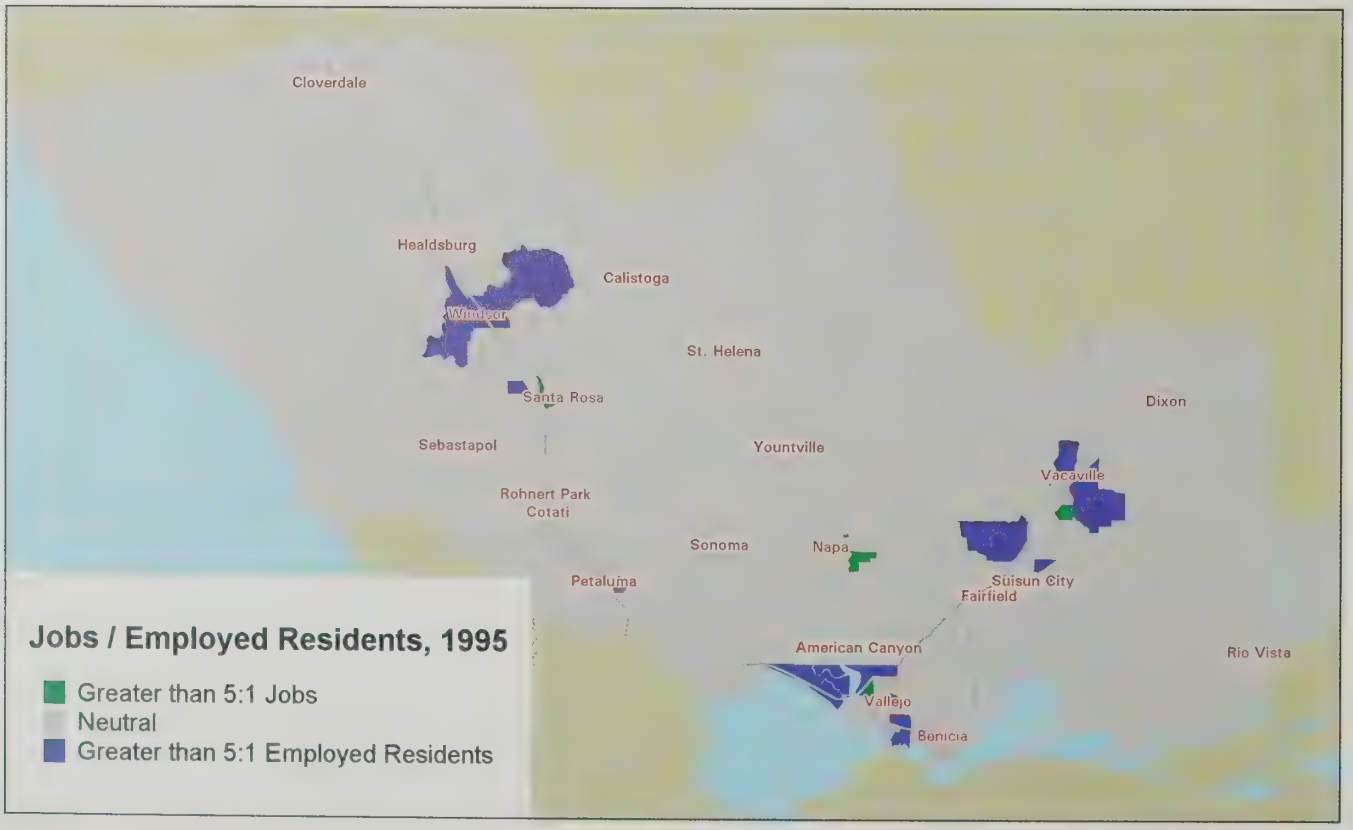
Sonoma
Napa
Petaluma
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia
Existing Households, 1995
More than 4,000 HH per sq mi
1,000 to 4,000 HH per sq mi
250 to 1,000 HH per sq mi
Fewer than 250 HH per sq mi


Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Dixon
Sebastapol
Yountville
Vacaville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia
Nonresidential Inventory, 1995
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Santa Rosa 21,000 new HH
Fairfield 19,000 new HH
Vacaville 15,000 new HH
Rio Vista 8,000 new HH
Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Dixon
Sebastapol
Yountville
Vacaville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia
New Households, 1995-2020
More than 4,000 new HH per sq mi
1,000 to 4,000 new HH per sq mi
250 to 1,000 new HH per sq mi
Fewer than 250 new HH per sq mi


Santa Rosa 2.3 million add'l SF
Fairfield 14 million add'l SF
Vallejo 10 million add'l SF
Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Dixon
Sebastapol
Yountville
Vacaville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia
Nonresidential Development
1995-2020
More than 4 million SF per sq mi
1 to 4 million SF per sq mi
0.25 to 1 million SF per sq mi
Less than 0.25 million SF per sq mi


Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
Santa Rosa
Dixon
Sebastapol
Yountville
Vacaville
Rohnert Park
Cotati
Sonoma
Napa
Suisun City
Fairfield
Petaluma
American Canyon
Rio Vista
Vallejo
Benicia
Median Home Sales Price, 1997
$500,000 or more
$300,000 to $499,900
$200,000 to $299,900
Less than $200,000


Cloverdale
Healdsburg
Calistoga
Windsor
St. Helena
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Dixon
Sebastapol
Yountville
Vacaville
Rohnert Park
Cotati
Sonoma
Napa
Petaluma
Suisun City
Fairfield
American Canyon
Rio Vista
Vallejo
Benicia
Jobs / Employed Residents, 1995
Greater than 5:1 Jobs
Neutral
Greater than 5:1 Employed Residents

For growing companies in fields such as biotechnology, the North Bay can be an attractive site for expanding manufacturing operations. A plant in the North Bay remains reasonably close to corporate offices and research & development facilities in other parts of the Bay Area, while being cheaper to build and operate.

Changes in Dixon and Rio Vista

In addition to the larger cities already mentioned, two small cities in Solano County are beginning to experience growth that will dramatically change their character in coming years. Dixon lies along Interstate 80, not far from Davis and Sacramento. Rio Vista lies further south along the Sacramento River. New housing unit permits in these two communities between January 1996 and July 1997 equal 10% of the number of households present in 1995. Between 1995 and 2020, the number of households in Dixon is expected to more than double, ballooning from 4,200 to more than 9,000. The number of households in Rio Vista is expected to jump from 1,500 to more than 9,000.

CRITICAL ISSUES

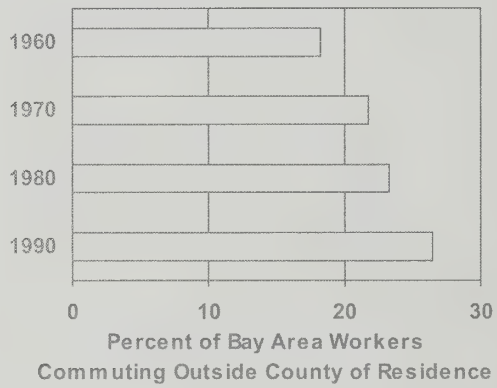
Overview

On an average weekday morning, Bay Area commuters traversing the region's most congested highways cumulatively lose more than 16,000 hours sitting in traffic. Based on forecasts in this study and projections prepared by the Metropolitan Transportation Commission, it is clear that Bay Area commuters will face still longer delays in the decades to come.

There are several reasons why the Bay Area has congealed in traffic. Two reasons will receive particular attention here because they are intimately tied to land use. First, commuters are traveling longer distances between home and work as new jobs and housing—particularly affordable housing—are becoming concentrated in far corners of the region. Second, new residential developments are being constructed far from the region's mass transit lines. As a result, the very qualities that prompted many Bay Area residents and employers to settle here—the region's natural beauty and economic vitality—are threatened.

More Long Commutes

Today, nearly 30 percent of Bay Area commuters drive to jobs outside their county. In 1960, it was less than 20 percent.



Some counties tend to export more of their workers than others. For example, 40% of Contra Costa County residents work in one of the other eight Bay Area counties or outside the region. On the other side of the equation, job-abundant counties tend to import significant numbers of workers. For example, in 1990, 46% of San Francisco workers lived outside that county.

	Jobs				Housing Units			
County	1995	1997	Net Increase		1995	1997	Net Increase	
Alameda	608,770	653,085	44,315	7.3%	514,955	521,101	6,146	1.2%
Contra Costa	298,420	326,885	28,465	9.5%	336,438	342,980	6,542	1.9%
Marin	104,870	112,760	7,890	7.5%	102,378	103,271	893	0.9%
Napa	50,000	53,000	3,000	6.0%	47,028	47,694	666	1.4%
San Francisco	534,610	570,780	36,170	6.8%	333,604	335,034	1,430	0.4%
San Mateo	318,350	343,545	25,195	7.9%	256,248	258,611	2,363	0.9%
Santa Clara	827,350	953,355	126,005	15.2%	559,010	566,164	7,154	1.3%
Solano	121,890	127,135	5,245	4.3%	128,447	131,017	2,570	2.0%
Sonoma	164,030	174,420	10,390	6.3%	173,464	176,807	3,343	1.9%
Bay Area	3,028,290	3,314,965	286,675	9.5%	2,451,572	2,482,679	31,107	1.3%

Recent development activity and long-range forcasts suggest that this job/housing imbalance is likely to worsen in the future. For example, recent trends shown in the table on the previous page indicate that between 1995 and 1997, the number of jobs in Santa Clara County increased 15.2% while the number of housing units increased by only 1.3%. The county's current housing shortage is likely to become more acute in the next two decades. By 2020, Santa Clara County is projected to gain 50% more

Housing and Jobs

One explanation for the Bay Area's wearingly long commutes is the distance between residential and commercial/industrial areas. Historically, cities tended to segregate housing and commercial developments within their community to different parts of town. Today, that differentiation is occurring between localities.

Even if every community in the region were able to achieve numerical balance—the ideal ratio of jobs to housing—the region's commute headaches wouldn't be solved. A major stumbling block is that fact that many Bay Area residents can't afford to live in the communities in which they work. High housing prices in the job centers have driven low- and moderate-income workers to the outer suburbs in search of affordable housing. In fact, increasing numbers of people are stretching beyond the region's borders—to Stanislaus, San Joaquin, and San Benito counties—in search of a better deal.

The table that follows lists the percent of income required for a two-wage earner family to purchase a median priced home in a given city. It assumes that both residents work in that community and earn the average wage for that city. In nearly 70% of the Bay Area's cities, residents would need to spend more than the normally suggested 30% of their income on housing. An excerpt of the chart shows the range of income percentages required around the region.

City	Average Wage	Median Home Price	% of Income
South Bay			
San Jose	$31,700	$ 235,000	28%
Monte Sereno	25,400	1,300,000	191%
Cupertino	49,300	395,000	30%
Los Gatos	24,400	435,000	67%
Gilroy	21,600	195,000	34%
West Bay			
San Francisco	34,500	285,000	31%
Tiburon	20,400	619,500	113%
Half Moon Bay	15,200	375,500	93%
Millbrae	19,000	372,000	73%
San Rafael	28,000	343,500	46%
East Bay			
Oakland	29,600	183,500	23%
Berkeley	24,900	263,000	39%
Orinda	24,200	415,000	64%
Concord	28,700	170,000	22%
Richmond	29,800	134,500	17%
North Bay			
Santa Rosa	24,200	187,000	29%
Napa	23,500	170,000	27%
Vallejo	27,000	112,000	20%

The geographic distribution of affordable housing is having a centrifuge effect on the region, pressing low- and moderate-income workers to its far reaches and beyond. This scatter pattern has a number of consequences. To the extent that housing prices segregate Bay Area residents along income lines, it can deepen

social divisions and economic inequities. Given that communities need a mixture of skills, this widening gap could undermine the economic viability of the region. Plus, mounting numbers of long distance commuters will increase traffic congestion, pollution, accident-related deaths and disabilities, auto and health insurance, highway repairs, and the consumption of natural resources for highway expansion and construction. In fact, these problems are already being manifested on the region's highways.

Freeway Congestion

The major areas of traffic congestion are a familiar litany to Bay Area commuters, recited daily on the morning and evening traffic reports. The three worst stretches of roadway–shown on page 7–are I-80 between the Bay Bridge and Richmond; I-680 between the Santa Clara County border and the Sunol pass; and I-880 between Mowry Avenue in Fremont and Dixon Landing Road in Milpitas.

These traffic hot spots are likely to worsen in the coming years, given the pressures previously noted. New housing units in the Tri-Valley area, in cities such as Brentwood and Antioch in eastern Contra Costa County, and across the border in San Joaquin and Stanislaus counties will release more commuters into the traffic stream headed toward the San Francisco Bay Bridge and Santa Clara County. A surge of residential development in Gilroy and Morgan Hill, along with commuters headed north from Hollister in San Benito County, will also intensify congestion on segments of Highway 101.

The Role of Fixed Transit

Given these traffic conditions, fixed transit assumes even greater importance. Many people who live or work near rail stations are likely to use mass transit. According to a 1994 study on transit-focused developments in the Bay Area, residents who lived within three-quarters of a mile of a rail station were approximately five times as likely to commute by mass transit than the average person living elsewhere in the city. Residents whose jobs were near a rail station were, on average, 2.7 times more likely to commute by rail than the average worker. And, contrary to common perceptions, research has shown that multi-family housing built near transit lines can command a premium price. A 1996 study of transit-based housing in the Bay Area found that multi-family housing constructed near BART commanded higher rents—typically 10 to 15% higher—in two out of three sub-markets studied.

Yet as shown in the table below, ABAG anticipates that a smaller percentage of the region's jobs and households will be sited near transit lines in the year 2020.

	Existing 1995	Forecast 2020	Potential under Existing Policies
Jobs within walking distance	370,000 12.2%	470,000 10.7%	490,000 11.1%
Households within walking distance	93,000 4.0%	111,000 3.9%	124,000 4.4%
Households within 3-mile drive or bus ride	475,000 20.4%	575,000 20.3%	595,000 21.0%

This reflects the fact that the vast majority of the region's new housing is being planned for areas far from fixed transit stations. However, the number of jobs and households near transit could be boosted through incentives. Local policies already allow for additional development near transit lines over what is forecast, and local governments could hike those numbers even higher by allowing residential development or mixed residential and employment useson sites currently zoned exclusively for commercial/ industrial use.

Conclusion

As grim as the Bay Area's traffic forecast appears, it is not inevitable. The situation could spur public and private leaders to work together to develop creative land use strategies to ameliorate the problem. Already there is evidence of such progressive alliances taking shape in Silicon Valley and in other parts of the region, where business, government, and certain environmental leaders are working togehter. The very scope of the challenges confronting the Bay Area could create the conditions in which imaginative and far-reaching solutions might be realized.

NOTES

Page	Note
3	For further discussion of the region's historical development patterns, refer to *Geography and Urban Evolution of the San Francisco Bay Area*, Vance, 1964.
4	Identification of developed land and existing land use is based on *Existing Land Use in 1995: Data for Bay Area Counties and Cities*, ABAG, 1996.
6	The map showing land designated for development, like many of the maps in this report, is plotted using census tract boundaries. The map indicates the average value for each tract. However, there may be significant variations from area to area within a tract—particularly if the tract covers a large area.
7-8	The light gray areas shown on the transportation maps are approximations of urbanized areas in 2020 based on projected population and employment.
10	Average rents are based on quarterly surveys of apartment buildings having 100 or more units conducted by RealFacts and reported by the Real Estate Research Council of Northern California.
10-37	Building permit data is from the Construction Industry Research Board and is plotted by city. Median home sales prices are from the California Association of Realtors and are also plotted by city. Prices reflect sales of new and existing single-family homes and condos during the month of July 1997. In a few cities, where the number of sales was low, the data was supplemented with data from other months or other sources.
38	Data on inter-county commutes is from the U.S. Bureau of Economic Analysis based on decennial censuses.
38-39	Estimates of jobs and housing units in 1995 and 1997 were made by ABAG using data from the California Employment Development Department and the California Department of Finance. Housing units is the total number of units on the ground. The number of occupied units may be slightly less or substantially less than this number, depending on vacancy rates.
39	Home payments as percentages of income were calculated by ABAG using data from the California Association of Realtors (see maps on pages 14, 20, 30, and 36) and the U.S. Census Bureau (County Business Patterns by Zip Code).
40	For a detailed examination of existing freeway congestion, refer to *Highway Congestion Monitoring Report–1996*, California Department of Transportation District 4, 1997. For future projections, refer to *Draft Supplemental Environmental Impact Report for the 1996 Regional Transportation Plan Update*, Metropolitan Transportation Commission, 1996.
40-41	The transit studies cited are *Ridership Impacts of Transit-Focused Development in California*, Robert Cervero, University of California Transportation Center, 1993 and "Transit-Based Housing in the San Francisco Bay Area: Market Profiles and Rent Premiums," Robert Cervero, *Transportation Quarterly*, Summer 1996. Estimates of the number of jobs and households near transit stations were prepared by ABAG with assistance from the Bay Area Council. Only existing BART, CalTrain, MUNI, and Santa Clara County Light Rail stations and ferry terminals were considered.

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